

24 May 2016

Caroline Secretin
Senior Environmental Scientist
AECOM
PO Box 4241
Shortland Street
Auckland 1140

Dear Caroline

North Harbour 2 Watermain - Earthworks, Erosion and Sediment Generation for Albany Reservoir Option 2

The North Harbour 2 Watermain (NH2) will cross Albany Expressway by way of trenchless technology (e.g. tunnelling) and continue to Albany Reservoir via open trench. However two route options are proposed for connecting the watermain through to Albany Reservoir (reference Drawing 2010373.532).

- Option 1 – follows Albany Expressway to Data Way then follows Corinthian Drive (approximately 1000m)
- Option 2 – traverses road side reserve to Corinthian Drive and then through Spencer Ridge Reserve (approximately 720m)

Option 1 was assessed in the submitted Technical Report A – Earthworks, Erosion and Sediment Control. We have assessed route Option 2 which will require specific erosion and sediment control measures that are consistent with the following sections of Technical Report A:

- Section 5 General Erosion and Sediment Control Approach
- Section 6.1 General Open Trenching

Section 8, 9, 10 and 11 are also applicable to the mitigation of route Option 2. Option 2 will not cross any overland flow paths or streams, or flood plains (as shown in the Auckland Council GIS Catchments and Hydrology layer). There will be no additional effects or mitigation required for this section of open trench.


Therefore with correct design and construction of ESCMs it is anticipated that the effects on the environment will be less than minor.

Yours faithfully



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24 May 2016

Project Name: North Harbour 2 Watermain
Project Number: AE04521

Subject: Soil and Groundwater Contamination Assessment of Option 2 at Albany Reservoir (DWG 2010673.532)

Dear Sir/Madam,

This letter confirms that I have assessed the designation boundary around Option 2 (light blue) and that I have nothing to add to my Technical Report B – Soil and Groundwater Contamination Assessment- Final, dated 18 April 2016. The reasons for this are as follows:

- The historical aerial photograph review (see Section 4.5 of Technical Report B) does not suggest that former site activities or industries that are considered likely to cause land contamination resulting from hazardous substance use, storage or disposal, i.e. sites identified on the Hazardous Activities and Industries List (HAIL), were present at or near the designation boundary for Option 2.
- The Auckland Council Site Contamination Enquiry (see Section 4.6 of Technical Report B) does not identify an activity or industry listed on the Hazardous Activities and Industries List (HAIL) located near the designation boundary for Option 2.
- A conservative approach to manage unforeseen / unknown ground contamination is to use protocols that are designed to avoid, mitigate and remedy the potential for adverse effects on the environment, for example, the Project erosion and sediment control plan (ESCP) and the Contaminated Land Management Plan (CLMP).
- It is therefore considered that potential adverse effects on the environment arising from unforeseen/unknown ground contamination at the designation boundary for Option 2 can be avoided, mitigated and remedied provided that the contractor adheres to the protocols listed in the ESCP and the CLMP.

Yours sincerely



Walter Starke

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23 May 2016

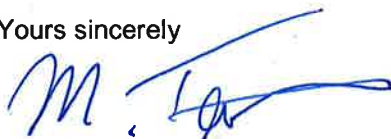
Project Name: North Harbour 2 Watermain
Project Number: AE04521

Subject: AEE of Option 2 (DWG 2010673.532)

Dear Sir/Madam,

This letter highlights the AEE related to groundwater for Option 2, at the Albany reservoir, within the park (DWG 2010673.532). Using Option 2 for this trenched section will not result in any changes to the potential effects assessed for Option 1. This is because the two options occur within the same hydrogeological area for the purposes of this assessment. Consequently, potential drawdown due to open trench excavation is expected to be minimal away from the excavation face (e.g. <1m at 30m from the trench and tapering off to zero beyond this distance).

Yours sincerely



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MEMORANDUM

TO	:	AECOM
ATTENTION	:	Caroline Secretin
FROM	:	Mark Delaney, Ecologist
SUBJECT	:	NH2 & NI Shared Corridor: Option 2, Albany Reservoir.
DATE	:	23 May 2016
BGL REF	:	WD\15170

Bioresearches Group Limited was commissioned by Watercare Services Limited (Watercare) to assess the potential ecological effects related to the construction, operation and maintenance of Watercare's proposed North Harbour 2 Watermain (NH2) and the Northern Interceptor (NI) shared corridor.

An additional ecological assessment was required for 'Option 2' at Albany Reservoir (refer updated Drawing No 2010673.532). 'Option 2' uses open trench installation and runs from the Mercari Way and Albany Expressway intersection, via Corinthian Drive and Spencer Ridge Reserve, to the end of NOR2.

From a desktop assessment, it was determined that 'Option 2' runs through a few small patches of young native restoration plantings within Spencer Ridge Reserve. The ecological value associated with 'Option 2' are low. The ecological effects for 'Option 2' are expected to be minor with the potential loss of a small amount of young native vegetation.

Where practicable, construction activity should be adjusted to avoid or minimise disturbance to native vegetation. Where native vegetation loss does occur, at a minimum, this vegetation should be re-instated post construction using the same diversity of plants that were originally there.

With adequate mitigation, the expected effects will reduce to less than minor.

Mark Delaney MSc.

Ecologist | **Bioresearches Group Ltd**

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26 May 2016

Caroline Secretin
Senior Environmental Scientist

NOR2: Option 2 at Albany Reservoir

Dear Caroline,

Technical Report E – Traffic Assessment Report did not describe or refer to Option 2 through the Albany Reservoir at the end of NOR2 as it was assumed that the alignment would follow Albany Expressway, Data Way and Corinthian Drive. With this alignment, the traffic assessment report noted that Data Way may need to be closed during construction which would require the use of an alternate vehicle route via Mercari Way and Don Mckinnon to enable vehicles to travel between Albany Expressway and Corinthian Drive.

The Option 2 alignment as shown in light blue on Drawing No 2010673.532 avoids Data Way entirely so there would be no need to close Data Way. A considerable percentage of the Option 2 alignment is in the reserve so it is expected that there would be less overall impact upon general traffic during construction. However, there would be traffic impacts along Corinthian Drive during the construction period in the vicinity of 5-9 Corinthian Way. This section of Corinthian Drive near the driveway to 9 Corinthian Drive is narrower than other sections of the road as there is no shoulder or on-street parking. Through appropriate traffic management, it is expected that Corinthian Drive could be kept open. The driveway in 9 Corinthian Drive will only be affected for 2 to 3 days and timing of the work will be done in consultation with the property owner and tenants immediately prior to construction to minimise disruption.

It should be noted that the section of road near 9 Corinthian Drive would likely be restricted to only 1 lane of traffic during construction. The current alignment of Option 2 would block the driveway to 9 Corinthian Drive during construction. To mitigate this effect, one of the following measures is recommended:

1. Option 2 alignment could be moved to the north side of the road as the current alignment would block the driveway during construction (see attached sketch).
2. Complete the construction work in the vicinity of 9 Corinthian Drive during off peak periods (i.e., nights, weekends or holidays) to minimise the impact

This letter confirms that we have considered Option 2 of the NOR2 through the Albany Reservoir and consider it to be a workable solution from a traffic perspective as the traffic impacts are considered to be less than minor provided that appropriate mitigation is implemented per the above guidance.

Please let me know if you have any questions regarding this matter.

Yours sincerely



Samuel Corbett
Section Leader - Transport Planning

23 May 2016

Caroline Secretin
AECOM
AECOM House, 8 Mahuhu Crescent, Auckland 1010
PO Box 4241 Shortland St, Auckland 1140

Dear Caroline

**NH2 - Option 2 at Albany reservoir
Construction noise and vibration**

Watercare has requested that Construction Option 2 at Albany reservoir (trenched installation) within the park is included within the scope of the application recently submitted to Auckland Council.

This option is included in the updated Drawing No 2010673.532.

We have considered the potential construction noise and vibration effects of this option, and note the following:

- This option is in a generally commercial area, with setbacks of at least 40 m between works and receivers.
- The management processes documented in section 3 of our Technical Report F dated 29 April 2016 that was included with the application, remain appropriate.
- The effects would be consistent with "typical works" as detailed in section 8.2 of Technical Report F.

On this basis, there are no additional effects or mitigation that would require our technical report to be updated.

Yours faithfully



Michael Smith
Senior Acoustics Engineer
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Darran Humpheson
Associate Director – Acoustics
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MEMORANDUM

TO: Caroline Secretin (Aecom)

FROM: Dave Compton-Moen (Kamomارش)

SUBJECT: NH2 and NI Shared Corridor – Assessment of Option 2 Through the open space in Albany

Project No. n/a

Date 23 May 2016

Dear Caroline

The following memorandum is to confirm if there are any effects resulting from Option 2 shown on drawing 2010673.532/3, dated 23.5.2016. It is my understanding that Option 2 proposes a trenched installation of the watermain through an open space corridor. The proposed alignment in the open space corridor, approximately 355m long, roughly follows a shared pathway which connects two sections of Corinthian Drive, Albany.

The open space is generally open grass land, moderately undulating with amenity plantings scattered in informal clusters along the existing path. The planting is a mix of native and exotic species, being a mix of grasses, shrubs and trees. The majority of specimens are 2-3m in height and estimated to be no more than 10 years old. There are some taller exotic species present but these are of a relatively young scale also.

It is considered that the option to go through the open space will not increase any of the adverse landscape and visual effects outlined in my assessment report. There may be some removal of vegetation required but the specimens are of a scale and age which can be readily replaced. There are no above ground structures proposed with the option so there will be no residual adverse visual effects. There will be some temporary visual effects during construction but these are considered less than minor.



Dave Compton-Moen

Urban Designer / Landscape Architect



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24 May 2016

Additional information relating to NH2 and NI Shared Corridor - Options 1 & 2 at Albany Reservoir, Spencer Ridge Reserve and Corinthian Drive

Following submission of the AEE for NH2 and NI to Council, it has been noticed that the construction of Option 2 at Albany reservoir (refer updated Drawing No 2010673.532) at the end of NOR2 was not described in the AEE.

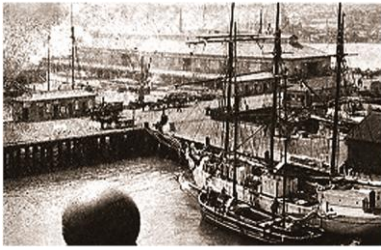
This aspect of the proposed alignment was assessed in the GreensceneNZ Limited arborist report dated 29 April 2016.

Upon review of the report and plans it has been identified that the report has erroneously referenced the two proposed options, in relation to trees numbered 134, 135 and 136. The report should read that Option 1 is the preferred option from an arboricultural perspective and Option 2 would require replanting of the Spencer Ridge Reserve to replace trees that may need removal for the open trenching in that corridor (if chosen).

Please call me on (09) 623-3514 if you have any queries relating to the above matters.

Kind regards

Craig Webb
GreensceneNZ Limited



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24 May 2016

Caroline Secretin

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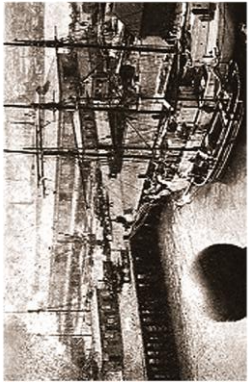
Dear Caroline,

Re: NH2 Option 2 Albany Reservoir – updated drawing no. 2010673.532

Thank you for sending through the updated drawing for the Albany Reservoir section of proposed works (as attached). I have reviewed the changes to the plan which comprise the addition of the designation boundary around the proposed Option 2 alignment at Albany Reservoir and can confirm that this alteration does not affect the existing assessment of this area. No further assessment is required.

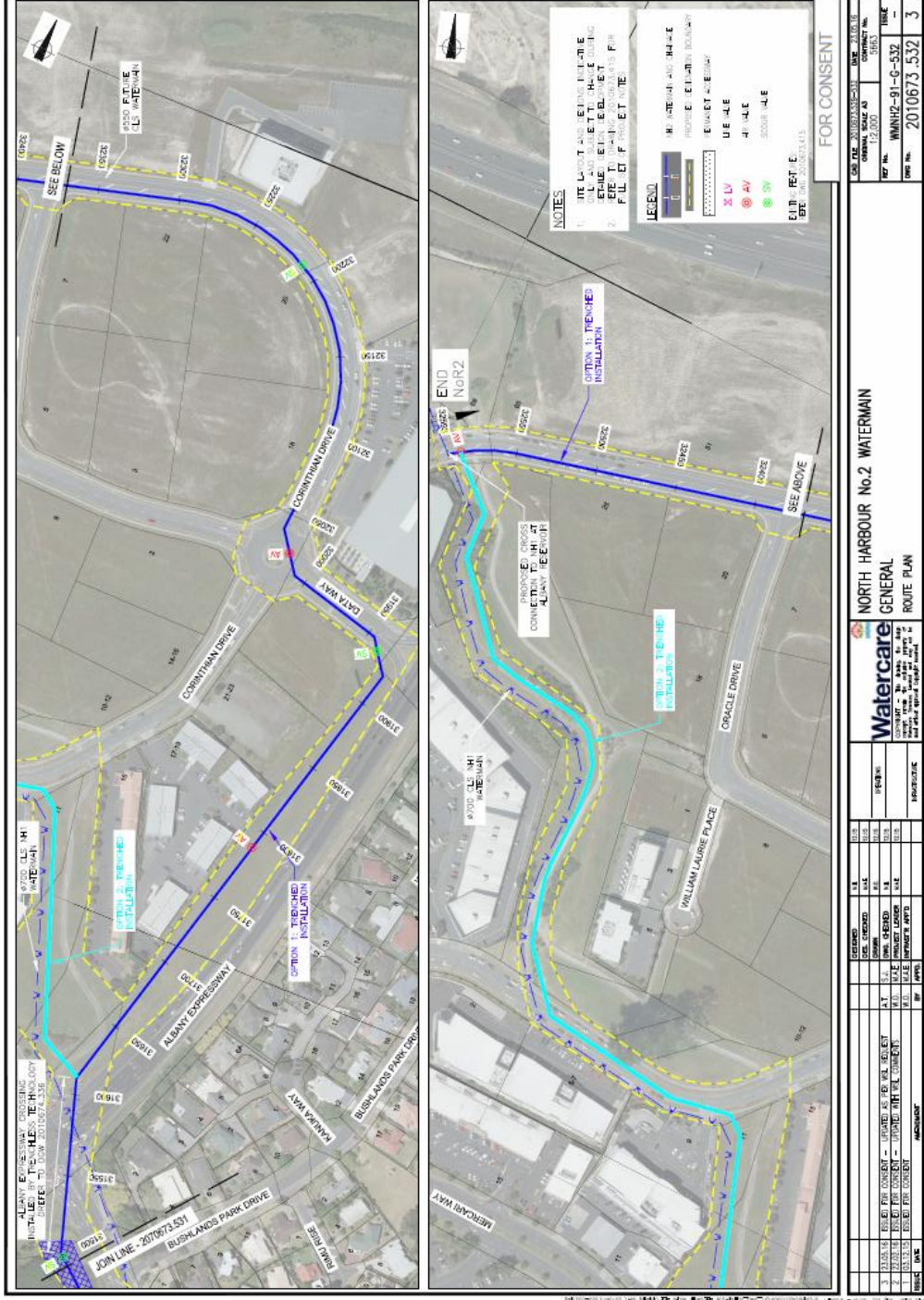
Yours sincerely

Charlotte Judge MA Hons (Auckland)
Senior Archaeologist



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NO.	DATE	BY	APP'D	REVISION
1	13/05/14	ESLET PPK CONSULTANT	UPDATED FOR PERMIT APPLICATION	
2	23/05/14	ESLET PPK CONSULTANT	UPDATED WITH PERMITS COMMENTS	
3	23/05/15	ESLET PPK CONSULTANT	REVISION FOR PERMITS	
4	23/05/15	ESLET PPK CONSULTANT	REVISION FOR PERMITS	

PROJECT NO.	2010673.531	DATE	20/06/16
CLIENT	WATERCARE	SCALE	AS SHOWN
PROJECT NAME	NORTH HARBOUR No.2 WATERMAIN GENERAL ROUTE PLAN	PROJECT NO.	2010673.532
PROJECT LOCATION	NORTH HARBOUR	DATE	20/06/16
PROJECT TYPE	WATERMAIN	PROJECT NO.	2010673.532
PROJECT PHASE	PERMITS	DATE	20/06/16
PROJECT STATUS	FOR CONSENT	PROJECT NO.	2010673.532
PROJECT NO.	2010673.532	DATE	20/06/16