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Nick Ebrahim
3707 Dollarton Highway
North Vancouver, B.C.
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November 9th, 2016

Dear Mr. Ebrahim,

**Re: Archaeological Review of the Revised Proposed Dock Development at 3707 Dollarton Highway,
North Vancouver within the Boundaries of Site DhRr-0008**

The following consists of an archaeological review of the revised design of a proposed dock development located at 3707 Dollarton Highway, North Vancouver within the boundaries of site **DhRr-0008**. The review was initiated at the request of Bruce Clark, R.P. Bio. of Balanced Environmental Services Inc. in order to determine if any changes were required to the archaeological management recommendations set forth for the proposed dock development given its revised design. The proposed dock development is located within the extreme western edge of the boundaries of previously recorded archaeological **DhRr-0008** within the asserted traditional territory of the Musqueam, Squamish, and Tsleil-Waututh First Nations (Figure 1).

Project Background

In 2008, an AIA (Archaeological Impact Assessment) of proposed residential developments at 3707, 3715, and 3749 Dollarton Highway was conducted by Arcas Consulting Archeologists Limited (Alexander 2008). No archaeological materials were identified within the boundaries of the proposed residential development area and a recommendation was made that no further archaeological work was warranted for the proposed development prior to the start of proposed residential development activities. However, during the AIA, a single basalt flake was identified in the beach/intertidal zone in front of the proposed development area. The flake was subsequently added to the inventory of site **DhRr-0008** and the boundary of the site was accordingly extended to include the single flake and the beach/intertidal zone in front of 3707 Dollarton Highway. As part of the recommendations put forth for in the AIA report for the proposed developments, a recommendation was made that “if the foreshore (intertidal zone) of the subject property is developed, the single flake should be collected and additional archaeological studies of the intertidal zone are warranted” (Alexander 2008).

Subsequent to the original AIA, development plans changed and a new dock was added to the proposed development. The original design of the proposed dock was to include pilings in the intertidal area and a shoreline abutment within the recorded boundaries of site **DhRr-0008** (Figures 1-4). The original design of the dock called for the pilings to be installed by floating barge from the seaward side within the intertidal zone. The associated shoreline abutment was to be constructed by hand along the shoreline and was to include a concrete footing. Arrowstone Archaeological Research and Consulting Limited subsequently assessed the proposed dock design in 2012 (Arrowstone 2012) under Site Alteration Permit 2012-0061. The assessment consisted of a pedestrian survey of the impact zone of the proposed dock development as well as the excavation of five subsurface tests within the impact zone of the shoreline abutment (Test #s 1-4) and one test (Test #5) was conducted on the beach. No artifacts or features were identified in the

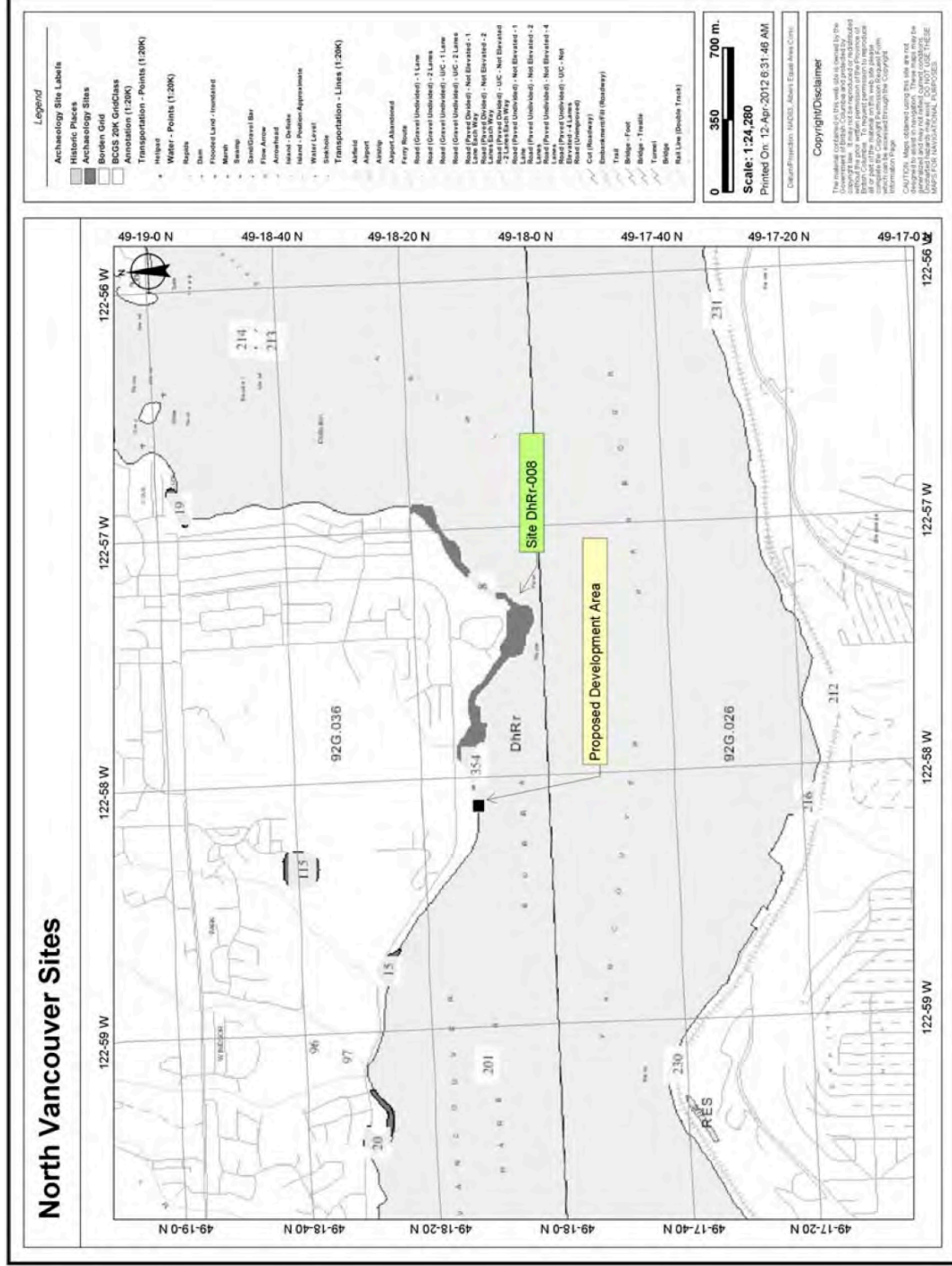


Figure 1: RAAD map showing the location of 3707 Dollarton Highway in relation to **DhRr-0008** and surrounding archaeological sites. Site **DhRr-0354** consists of a historic shipwreck site (reported submerged barges) located to the east of the proposed development area within the McKenzie Barge Facility.

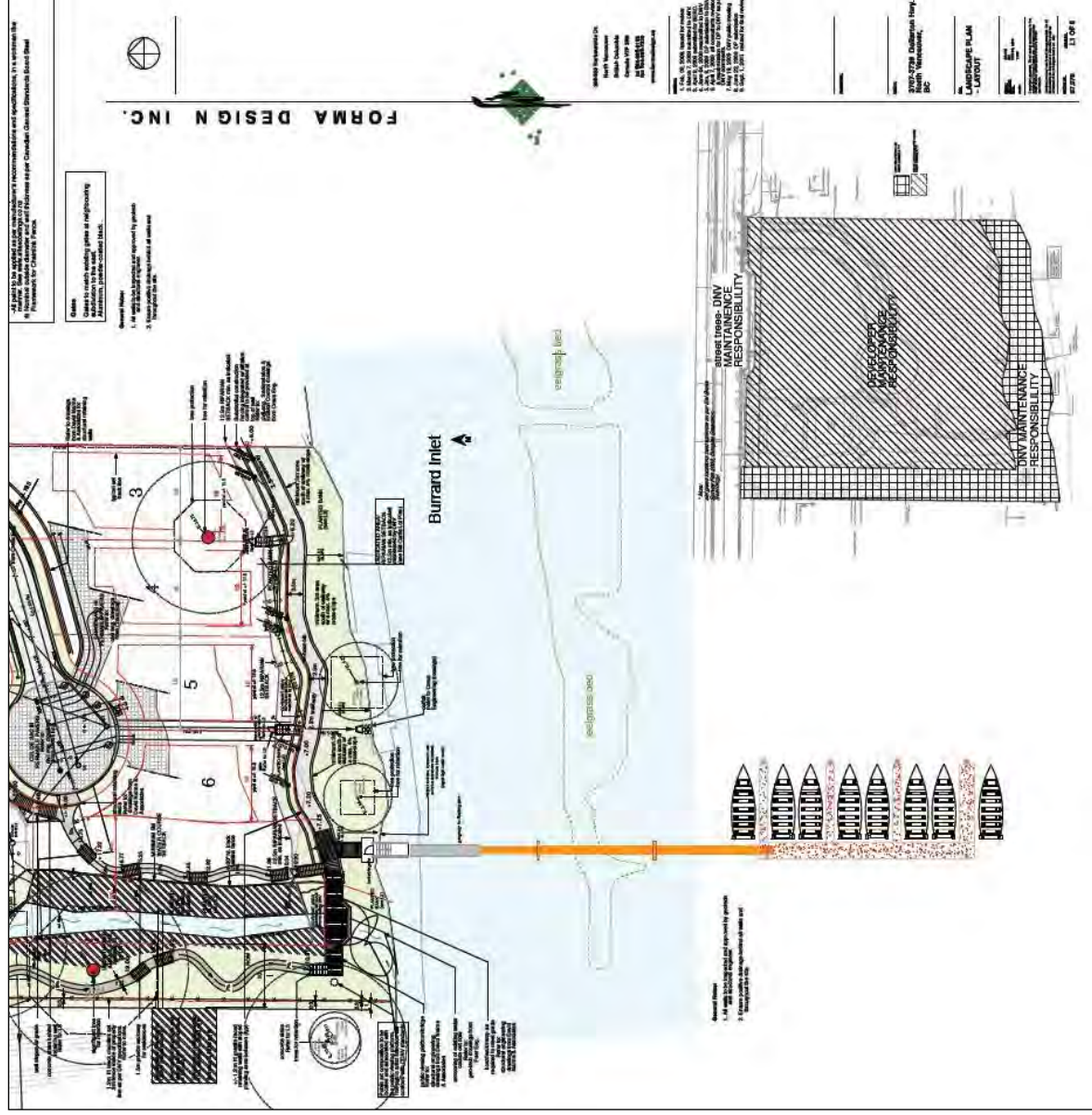


Figure 2: Map showing the configuration and location of the original proposed dock design at 3707 Dollarton Highway on the larger original proposed development plan map as assessed under Site Alteration Permit 2012-0061.

Archaeological Review of the Revised Proposed Dock Development at 3707 Dollarton Highway, North Vancouver within the Boundaries of Site DhRf-0008

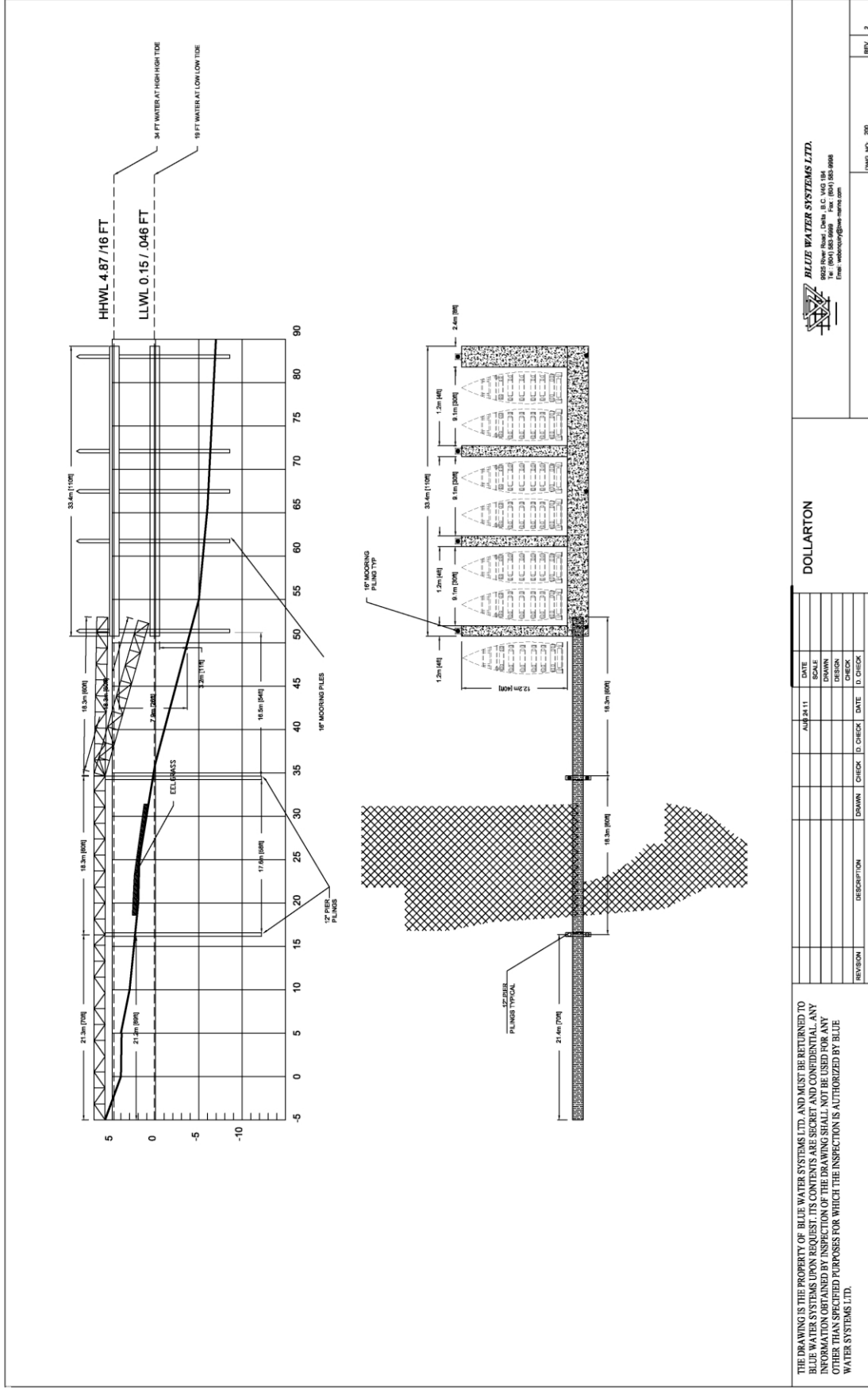


Figure 3: Plan of the original proposed dock design at 3707 Dollarton Highway, North Vancouver as assessed under SAP 2012-0061.

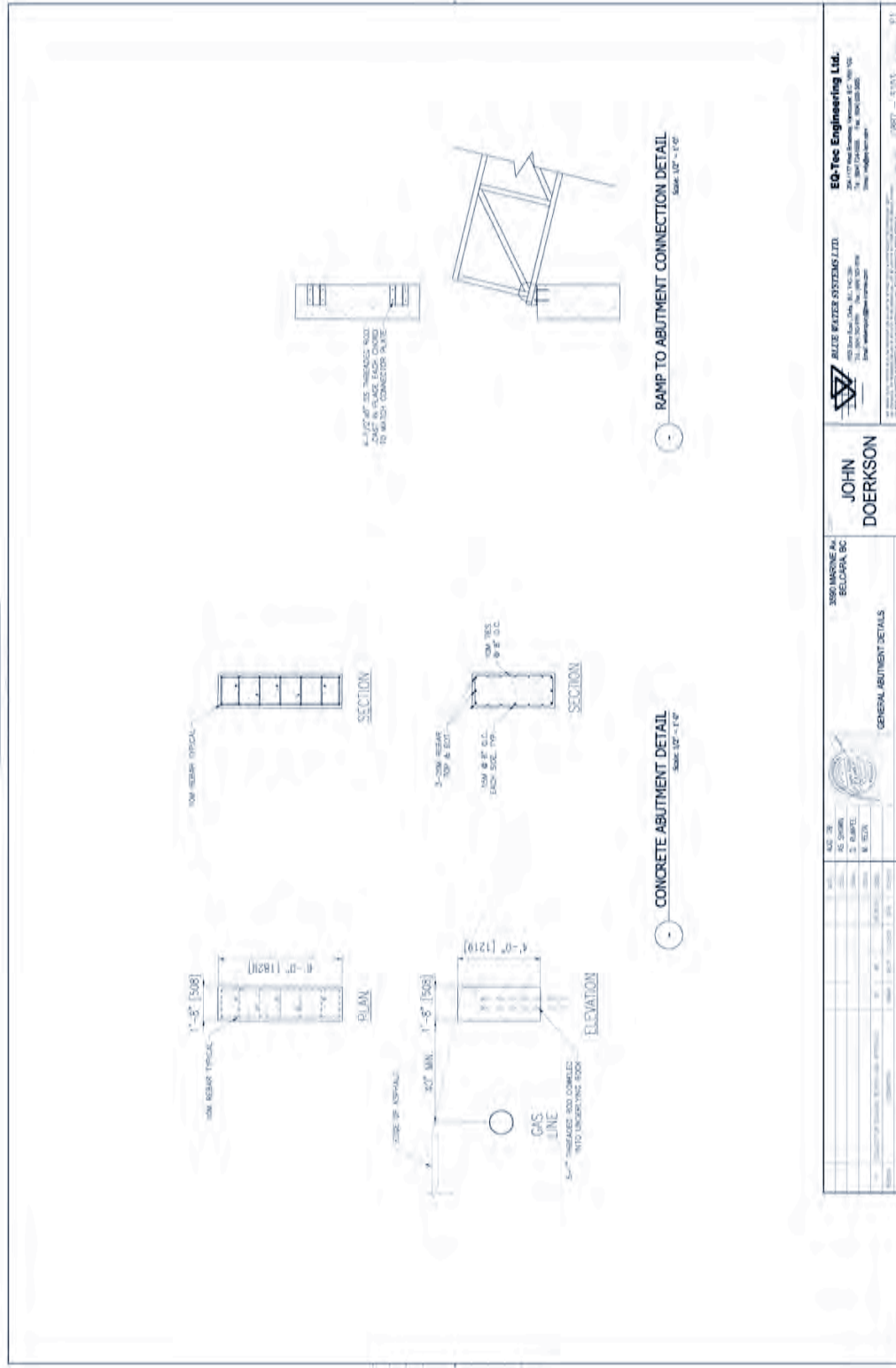


Figure 4: Landside abutment plans for the original proposed dock at 3707 Dollarton Highway, North Vancouver as assessed under SAP 2012-0061.

subsurface tests (Figure 5). Following subsurface testing, a pedestrian survey of the beachfront of the property was conducted. As the tide level was quite low, an examination of the exposed bank was also conducted. Within the exposed bank, no shell midden deposits or other archaeological materials were identified, only the same sandy loam fill which was present in the subsurface tests. During the pedestrian survey of the beach/intertidal zone, three lithic artifacts, all fashioned from basalt, were identified – the tip of a projectile point (Surface Find #1), a biface fragment (Surface Find #2), and an early stage tool production flake (Surface Find #3). All three of the artifacts observed were identified outside of the impact zone of the proposed dock development (Figure 5). Surface Find #3 was identified very close to the location of the single flake indicated by Arcas (Alexander 2008) and may in fact be the same artifact identified in their initial AIA. Unfortunately, a description of the flake identified and/or a photograph of the flake was not provided in the Arcas report and it is unclear if the artifact identified during the current assessment is indeed the same artifact identified by Arcas years earlier. In addition to the lithics, other modern pieces of industrial and shipping refuse were identified, littering the beach – including an abundance of ‘pig iron’ a type of ballast that is a result of iron ore smelting (Camp and Francis 1920).

The results of the subsurface testing conducted appeared to confirm the results of the prior AIA conducted by Arcas (Alexander 2008) that suggested that subsurface cultural deposits associated with site **DhRr-0008** are not present on the subject property at 3707 Dollarton Highway. The results of the surface survey in front of 3707 Dollarton Highway appeared to confirm the results of the AIA conducted by Arcas which suggested that isolated surface finds associated with site **DhRr-0008** are present along the beach in front of the subject property. The lithic artifacts recovered from the beach area in front of 3707 Dollarton Highway were identified outside of the impact zone of the proposed dock development area and may have been transported to their present location as a result of the highly fluctuating tides and activities associated with the waters of Burrard Inlet. Accordingly, it was recommended in the site alteration permit report for the project (Sheppard and Hall 2012) that due to: (1) the negative results of the subsurface testing, (2) the highly disturbed nature of the sediments within the proposed development area, and (3) the negative results derived during the associated surface inspection of the footprint of the proposed dock development area, that the proposed dock development had low potential to impact archaeological resources (Sheppard and Hall 2012). As such, it was recommended in the site alteration permit report that no further archaeological work (including monitoring) was warranted for the proposed dock development prior to the start of development activities provided that the proposed development was not revised to include unassessed areas.

Evaluation of the Revised Dock Design

In November of 2016, a revised dock design was provided to Arrowstone by Balanced Environmental Services Inc. for review and evaluation in order to determine if any changes were required to the archaeological management recommendations set forth for the proposed dock development given its revised design (Figures 6 and 7). The review of the revised design conducted by Arrowstone suggested that the revised dock design appears to encompass a much smaller footprint than the original dock design assessed in 2012 in that the shoreline abutment/foundation has been dropped from development plans and the offshore mooring (over the subtidal seabed) has been reduced to two mooring slips. Moreover, the new design now consists of a freestanding structure supported by three pairs of pipe piles as compared to the original design. Accordingly, it appears that the new revised dock design will impact far less of an area than the original design and have a much smaller footprint.

As it is my understanding that the revised dock development will be located within the exact same area previously assessed and examined under SAP 2012-0061 and within the same footprint of the original design for the original dock development, outside of the area where the artifacts were identified in 2012 (the artifacts were identified outside of the impact zone of the original proposed dock development), it is

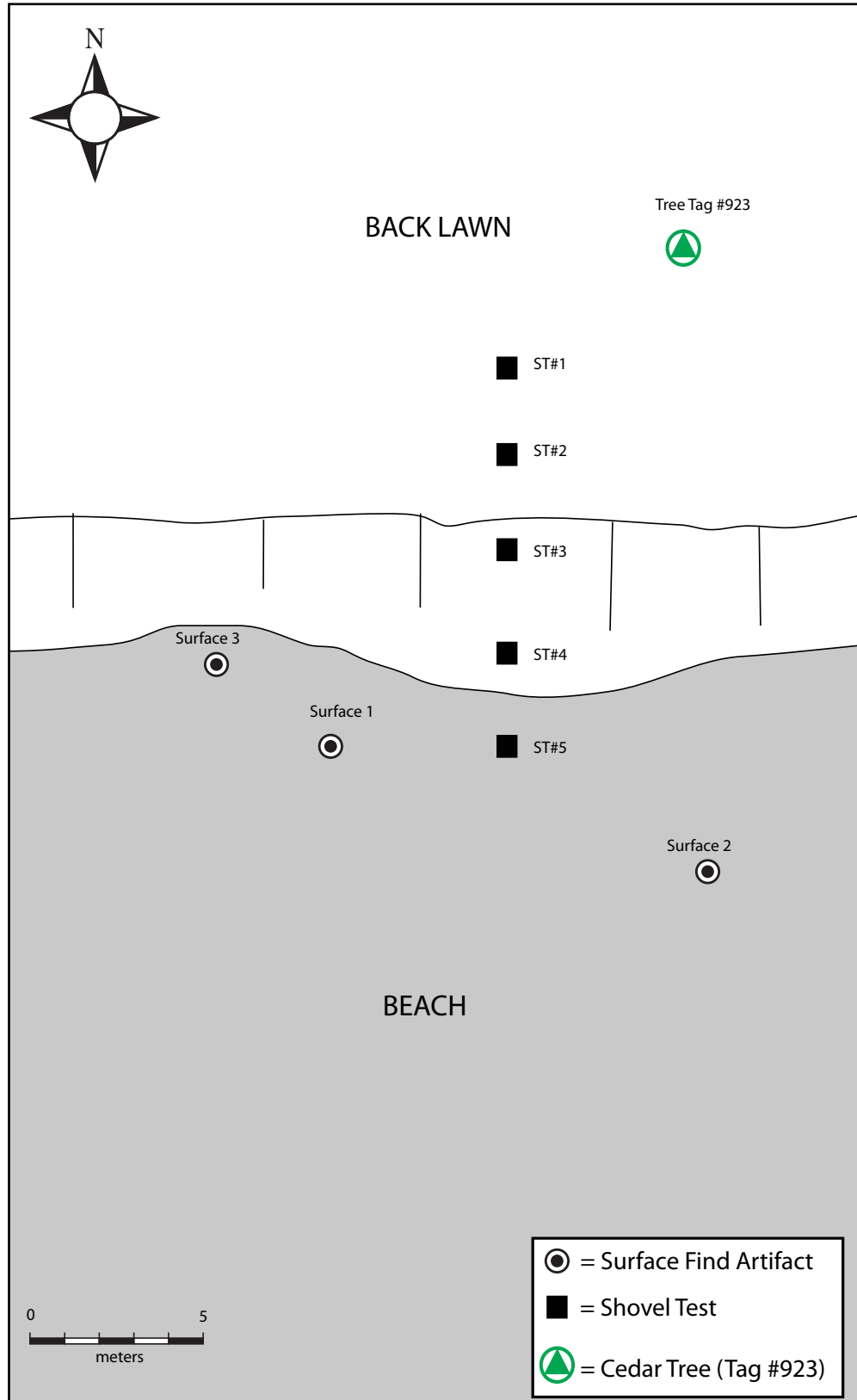


Figure 5: Map showing the location of the subsurface tests at 3707 Dollarton Highway and the location of the surface finds outside of the impact zone of the footprint of the proposed original dock development.



Figure 6: Location of the revised design of the dock at 3707 Dollarton Highway, North Vancouver.

Archaeological Review of the Revised Proposed Dock Development at 3707 Dollarton Highway, North Vancouver within the Boundaries of Site DhRr-0008

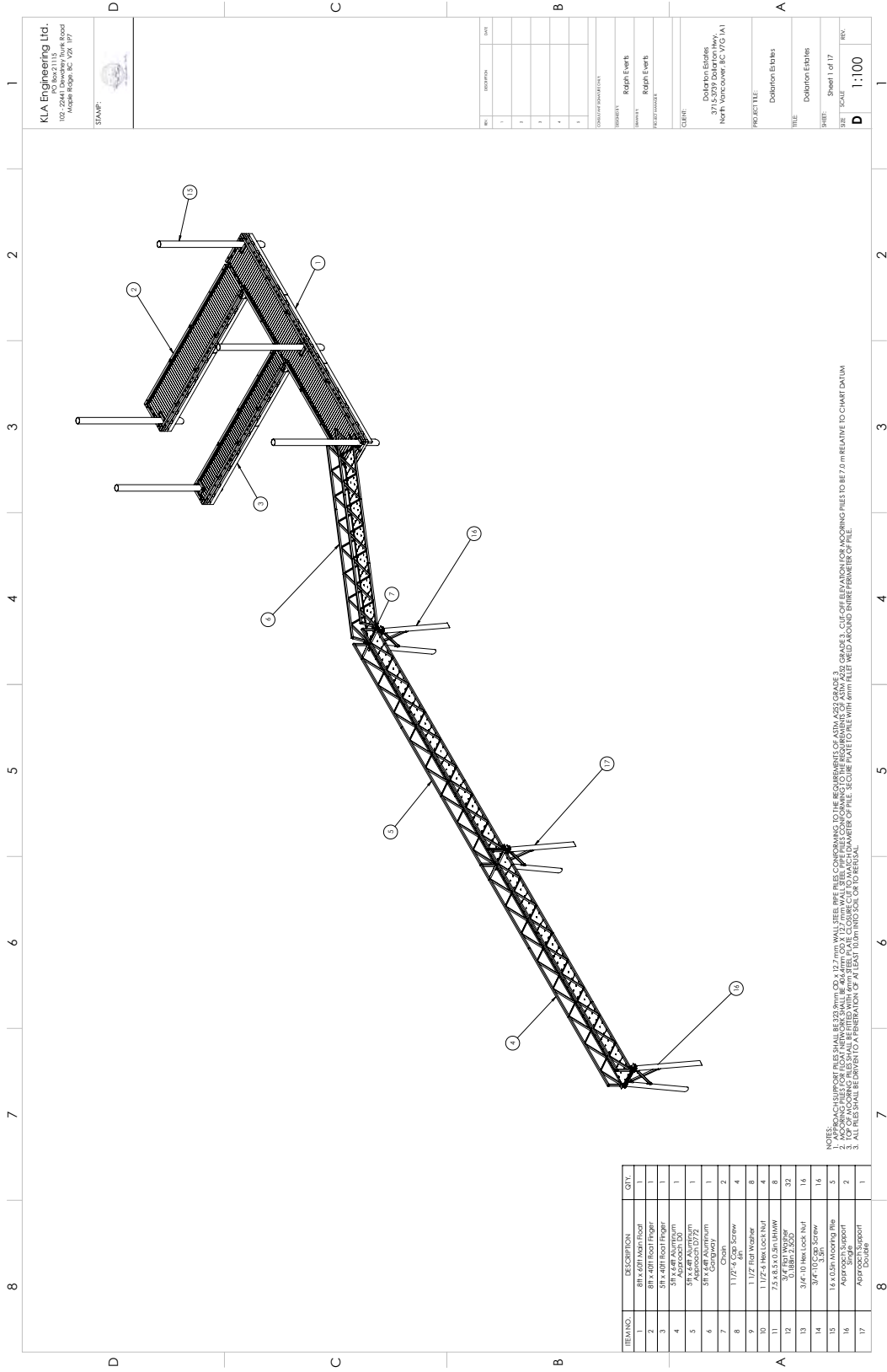


Figure 7: The revised design of the dock at 3707 Dollarton Highway, North Vancouver.

my opinion that the original recommendations provided for the original dock design should remain unchanged given the revised dock design. That is, that it is recommended that no further archaeological work (including monitoring) is warranted for the revised design of the proposed dock development prior to the start of development activities provided that the proposed development is not revised to include unassessed areas.

Users of this review should also aware that: (1) archaeological remains in B.C. are protected from disturbance, intentional or inadvertent, by the *Heritage Conservation Act*; (2) in the unlikely event that archaeological remains are encountered during construction activities, all ground disturbance in the immediate vicinity must be suspended at once; (3) it is the individual's responsibility to inform the Archaeology Branch, and the appropriate First Nations as soon as possible, concerning the location of the archaeological remains and the nature of the disturbance; and (4) the *Heritage Conservation Act* allows for heavy fines and imprisonment for failing to comply with these requirements.

I trust that this letter has provided you with the information that you require. Please do not hesitate to call me if you have any questions or require additional information. Thank you for the opportunity to conduct this review.

Sincerely,



Dave Hall, M.A., RPCA,
Senior Archaeologist, Arrowstone Archaeological Research and Consulting Limited

References Cited

Alexander, Diana (Arcas Consulting Archeologists Limited)

2008 Archaeological Impact Assessment of a Residential Development at 3707, 3715 and 3749 Dollarton Highway, North Vancouver, B.C. Permit 2008-0100. Report on file at the Archaeology Branch at the Ministry of Forests, Lands, and Resource Operations, Victoria.

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2012 Site Alteration Permit 2012-0161: Archaeological Testing and Surface Examination at 3707 Dollarton Highway, North Vancouver Associated with the Installation of a New Dock within the Boundaries of site **DhRr-0008**, Final Permit Report. Report on file at the Archaeology Branch at the Ministry of Forests, Lands, and Resource Operations, Victoria.