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CULTURAL HERITAGE IMPACT ASSESSMENT OF PROPOSED LOG HANDLING FACILITY AT HARRISON LAKE

SHIP 2019-150

Prepared for:
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SUMMARY OF RESULTS

The Stó:lō Research and Resource Management Centre was retained by BC Timber Sales to conduct a Cultural Heritage Impact Assessment (CHIA) of a proposed log handling facility at Harrison Lake, in *S'ólh Téméxw* (Stó:lō Traditional Territory). The CHIA was conducted under Stó:lō Heritage Investigation Permit 2019-150, held by SRRMC Project Archaeologist Lisa Dojack. An Archaeological Impact Assessment (AIA) was previously conducted on the log handling facility by Ursus Heritage Consulting under Stó:lō Heritage Investigation Permit (SHIP) 2016-006 (Hicks 2016). The CHIA consisted of two main components: (1) background research; and (2) review of previously conducted AIAs on the three cutblocks.

Several previously recorded cultural heritage sites/areas are recorded within a 1 km context zone of the Study Area, including one *Halq'eméylem* Place Name, one GIS-Modeled Travel Route, and one traditional land and resource use area, all of which are recorded within the Study Area and require further management (Section 5).

No archaeological features or materials were identified in the proposed log handling facility as a result of the AIA fieldwork (Hicks 2016).



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1.0 INTRODUCTION

In 2019, the Stó:lō Research and Resource Management Centre (SRRMC) was retained by BC Timber Sales to conduct a Cultural Heritage Impact Assessment (CHIA) of a proposed log handling facility at Harrison Lake, in *S'ólh Téméxw* (Stó:lō Traditional Territory; Figure 1). This report presents the findings resulting from the CHIA. An Archaeological Impact Assessment (AIA) was previously conducted on the log handling facility by Ursus Heritage Consulting under Stó:lō Heritage Investigation Permit (SHIP) 2016-006 (Hicks 2016).

The CHIA was conducted under Stó:lō Heritage Investigation Permit 2019-150, held by SRRMC Project Archaeologist Lisa Dojack. The CHIA was conducted in accordance with the following guidelines: (1) the *British Columbia Archaeological Impact Assessment Guidelines* (1998), developed by the Archaeology Branch; and (2) the Stó:lō Heritage Policy (2003), developed by the Stó:lō Nation and administered by the SRRMC.

1.1 Proposed Project

One log handling facility has been proposed for timber harvest at Harrison Lake (Figures 1-2). Development activities which could potentially impact both surface and subsurface archaeological sites include, but are not limited to:

- movement of heavy machinery;
- construction of access roads;
- brush clearing; and
- tree falling.

1.2 Project Objectives

In accordance with the provincial *Archaeological Impact Assessment Guidelines* (Archaeology Branch 1998) and the Stó:lō Heritage Policy Manual (Stó:lō Nation 2003), the objectives of the assessment were to:



- identify and evaluate all archaeological and cultural heritage resources within the Study Area;
- identify and assess all impacts on archaeological and cultural heritage resources; and,
- recommend viable alternatives for managing unavoidable adverse impacts, including a preliminary program for:
 - implementing and scheduling impact management actions and, where necessary,
 - conducting surveillance and / or monitoring.

The *Heritage Conservation Act (HCA)* provides legal protection against the disturbance of archaeological sites, defined as places that demonstrate past human activity predating 1846, all burial and pictograph sites, and shipwrecks more than two years old. The Archaeology Branch is the provincial regulatory body responsible for implementing the *HCA*. Common types of archaeological sites located in *S'ólh Téméxw* (Stó:lō Traditional Territory) include, but are not limited to:

- lithic scatters (i.e., stone tools and flakes)
- cultural depressions (e.g., pit houses, cache pits)
- culturally modified trees (e.g., bark-stripped trees, aboriginally-logged trees)
- rock art (i.e., pictographs and petroglyphs)
- cultural earthworks (e.g., burial mounds, rock cairns, defensive sites)
- karst features (e.g., caves, rock shelters)

In addition to archaeological sites, a number of cultural site types not recognized under the *HCA* were also included for consideration in this assessment, as defined and protected by the Stó:lō Heritage Policy Manual (2003). These include:

- Xéyt (Transformation) Sites – sites created as a result of the transformation of people or animals by *Xexá:ls* (The Transformers), *Tel Swayel* (The Sky-Borne People), or any other agent of *Chichel Siya:m* (The Creator)



- *Halq'eméylem* Place Names – sites indicating the significance of a place, due to their inherent characteristics, activities or events that took place there, or the oral histories tied to or coming from such places
- *Sxwôxwiyám* / Cultural Landscape Features – places in the landscape with broad cultural significance
- Traditional Land and Resource Use Areas – areas used for activities such as hunting, fishing, and gathering
- Spiritual/Ceremonial Regalia Sites – places on the landscape where spiritual or ceremonial items have been placed and will *remain*
- *Xá:Xa* (sacred or taboo places) Sites – sites often associated with spiritually potent 'taboo' places in the landscape (e.g., *stl'áleqem* sites) or ceremonial activities
- *Sxwó:yxwey* – places in the landscape related to the origin of the *Sxwó:yxwey* mask, considered among the most sacred of Stó:lō traditions

1.3 Report Organization

This report is presented in five key sections. Section 2 describes the setting and context of the Study Area. Section 3 is a review of the methods employed during the research component of the assessment. Section 4 summarizes the results, and Section 5 provides conclusions and recommendations.

2.0 STUDY AREA SETTING

2.1 Lower Fraser Basin Environment

The Study Area is located in the Lower Fraser Basin, in southwestern BC. Extending from the mouth of the Fraser River east to the Fraser Canyon, the Lower Fraser Basin Watershed embodies the large coastal delta, river lowlands, and forested montane slopes bordering the Coast and Cascade Mountain Ranges and the Strait of Georgia (Dorcey 1991). Fraser Basin topography is characterized by glacially modified landforms of Quaternary age, resultant from the Fraser Glaciation that occurred 26,000-10,000 years ago (Armstrong 1981).



2.2 Study Area

The proposed log handling facility is located on the northeast shore of Harrison Lake (Figures 1 & 2). Harrison Lake is one of the largest drainages in the southern Coast Mountains and was formed as a result of glacial retreat (Desloges and Gilbert 1991). Desloges and Gilbert (1991) estimate that the area around Harrison Lake became ice free between 12,000-11,000 BP. Geologically, the Study Area is a part of the Coast Plutonic Complex (Ash 2002; Armstrong 1981).

2.3 Cultural Overview – The Stó:lō

The Stó:lō, or ‘*People of the River*’, traditionally speak the *Halq’eméylem* language, a dialect of the Central Coast Salish language family. The traditional territory of the Stó:lō, referred to in *Halq’eméylem* as *S’ólh Téméxw*, “our land” or “our world”, encompasses the entire Lower Fraser Basin Watershed, from the Fraser Delta at the west to the Coquihalla River at the east, and the headwaters of the Harrison and Pitt lakes at the north to the Nooksack and Chilliwack river drainages at the south. *S’ólh Téméxw* incorporates a broad sphere of cultural interaction among Halkomelem speakers from the Fraser Canyon to southeastern Vancouver Island (Suttles 1990). Stó:lō oral tradition establishes the aboriginal occupation of this area since ‘the beginning of the world’ or ‘time immemorial’. Archaeological evidence presently documents human occupation extending back at least 10,000 years in the region, which constitutes some of the earliest evidence of human existence in northwestern North America (Borden 1975; McLaren and Storey 2010; Mitchell and Pokotylo 1996). There is strong archaeological, linguistic, historical, and oral historic evidence indicating long term, continuous occupation of this area by the ancestors of the contemporary Stó:lō (Burley and Beattie 1989; Carlson et al. 2001; Mitchell 1971; Schaepe 2009; Suttles and Elmendorf 1962).

At the time of European contact, the Stó:lō practiced a semi-permanent lifestyle, living in plankhouse and / or pithouse villages throughout *S’ólh Téméxw*. The Stó:lō remained sedentary in these villages during the winter months - the principle ceremonial season. A portion of the population moved into the uplands throughout the territory during the spring, summer, and fall, while others inhabited villages year-round. Temporary lodges, often made of woven reed mats, were constructed and used as seasonal hunting and fishing camps.



Fishing, hunting, and gathering formed the basis of Stó:lō subsistence. Fishing was practiced year-round and was deeply connected with the migratory patterns of abundant, locally available spawning anadromous fish, particularly Pacific salmon, eulachon, and sturgeon. The Stó:lō historically have a very strong connection to salmon, both spiritually and economically. Salmon and trout of all kinds were and continue to be caught and utilized in many ways by the Stó:lō. Deer, mountain goat, and bear meat, and various roots (e.g. camas, bracken fern, and tiger lily) and berries (e.g. huckleberries, strawberries, salmon berries, salal berries, blueberries, cranberries, and Saskatoon berries) also comprised significant plant resources which were collected, processed, and stored for the winter. Hunting and collecting activities were practiced throughout all areas of the landscape, from the valley bottom to the high elevation parkland and alpine environments (Schaepe et al. 1998).

Forest resources, particularly western red cedar, figured prominently into Stó:lō technology. Capable woodworkers, the Stó:lō fashioned nearly all parts of the cedar tree, including roots, bark, and trunk, into a vast number of usable items, such as basketry, mats, nets, clothing, cordage, bowls, spoons, storage boxes, canoes, house planks, house posts, fishing and hunting equipment, and ceremonial items (e.g., masks, poles). Other tree species, stone, bone, and antler materials were also used as tools and implements. The Stó:lō actively manipulated the productivity of the landscape through practices such as managed burning.

Trade with neighboring groups was facilitated by a network of mountaintop and riverside travel routes. Numerous travel routes provided access to the Nooksack and Skagit river valleys, to the south and east, and the up and downriver sections of the Fraser River (Dear 1994). Aboriginal trails are recorded throughout the Chilliwack River watershed (Wells 1987; Carlson et al. 2001).

Socially, Stó:lō society was stratified into upper and lower social classes. Bilaterally reckoned kinship and marriage provided the foundation of Stó:lō community, determining familial, community, and economic ties, as well as social standing. As early as 1780, traditional Stó:lō social structure and cultural practices were severely impacted by the smallpox epidemics and general economic upheaval associated with the arrival of the Europeans in and around *S'ólh Téméxw*. Smallpox epidemics, which occurred repeatedly throughout the late 1800's, devastated the Stó:lō population, effectively annihilating some Stó:lō groups, such as the Hatzic (Hatzic Lake vicinity) and *Sxayaks* (Stave Lake vicinity). Although



disrupted, numerous aspects of traditional Stó:lō culture continue to persist and be practiced today. A discussion of the effects of European influence and the development of contemporary Stó:lō lifeways is presented by Carlson (1997). Detailed ethnographic accounts are available in anthropological literature (Barnett 1955; Boas 1894; Carlson 2001; Duff 1952; Hill-Tout 1903; 1978; Jenness 1955; Smith 1947; Suttles 1955; Wells 1987).

It is important to note that not all aspects of traditional First Nations' cultures are recorded in the anthropological and ethnohistoric literature. Additional knowledge of traditional culture and lifeways still exists in many contemporary First Nations communities. Furthermore, aboriginal societies underwent significant changes as a result of their contact with Europeans, and some cultural aspects reported in the literature may not accurately reflect that culture prior to contact.

2.4 Archaeological Overview

The Gulf of Georgia Region has a long history of archaeological research on the Northwest Coast (Ames and Maschner 1999; Matson and Coupland 1995). The vast majority of regional archaeological research, however, has focused upon the coastal and riverine lowlands, to the exclusion of the surrounding upland areas and tributary drainages. Comparatively, the Upper Fraser Valley – between Mission and Yale - has experienced limited archaeological attention. The relationship between the Upper Fraser Valley and the rest of *S'ólh Téméxw*, remains to be clearly understood from a cultural historic perspective (Barnett 1955; Matson 1994; Schaepe 1998; von Krogh 1976). Archaeological work in the Upper Fraser Valley area has been conducted since the 1960's, but until the 1990's, archaeological investigations of the Maurer site (LeClair 1973, 1976) and Flood-Hope sites (von Krogh 1976) contributed the majority of information pertaining to the Upper Fraser Valley. Recent research at the Scowlitz site (Bernick 1992; Blake 1992; Blake et al. 1994; Lepofsky et al. 2000; Matson 1994), the *Xá:ytem* site (Mason 1994; Ormerod and Matson 2000), and the Maurer site (LeClair 1976, Schaepe 1998) have provided significant insights into the last 5,000 years of cultural occupation on the Upper Fraser Valley. Occupation of the region extends back even farther, as data from a ca. 9,000-year-old occupation has been recovered from the Milliken site (Borden 1975) near Yale, BC. Schaepe (2009) offers an examination of housepit settlements and community organization in the Fraser Valley from



2,550 – 100 BP. General overviews of archaeological research in the Upper Fraser Valley and Gulf of Georgia Region are presented by Ames and Maschner (1999) and Matson and Coupland (1995).

3.0 METHODOLOGY

The assessment was conducted in accordance with *British Columbia Archaeological Impact Assessment Guidelines* (Archaeology Branch 2000) and referenced the guidelines and terminology of the Stó:lō Heritage Policy Manual (2003). Methods were comprised of two main components: (1) background research; and (2) review of previously conducted AIA (Hicks 2016).

3.1 Background Research

Background research was conducted on the Study Area and its immediate vicinity. Information was gathered from the following sources, as appropriate:

- (i) documentary review: a review of readily available published and unpublished documents that provide information about (1) historical and current aboriginal land and resource use in relevant proximity to the Study Area; (2) the traditions of Stó:lō First Nations in relevant proximity to the Study Area; (3) non-aboriginal land and resource use in relevant proximity to the Study Area; and (4) bio-geo-physical data pertinent to the Study Area; and
- (ii) transcript review: of documented interviews from Stó:lō community members who are knowledgeable about historic and current land use and sites in relevant proximity to the Study Area, and of persons who are knowledgeable about Stó:lō traditions.

Information gathering involved a review of previously recorded site location maps, topographic maps, aerial maps or photos, development plans, and literature generally applicable to the Study Area and immediate vicinity. Sources for this information include local museums and archives, including those housed at the SRRMC. The Stó:lō Archives includes interviews with Stó:lō elders and others



knowledgeable of the history and traditional use of the concerned Study Area. The Study Area was also assessed within the framework of the Stó:lō Heritage Management Plan spatial databases (GIS), housed at the SRRMC.

The following sources of existing cultural heritage resource-related information were used in addressing the objectives of this assessment. These data sets comprise the Stó:lō Heritage Management Plan (SRRMC 2007), and include:

- Documented archaeological sites (B.C. Archaeology Branch 2019)
- Documented Settlements ca. 1800-1880 – Historic Map Inventory (Schaepe 2001)
- Documented and GIS-Modeled aboriginal trail/travel routes (Schaepe 1999)
- Existing information on Stó:lō Traditional Uses of *S'olh Téméxw* collected by previous traditional use studies (Albers 2000; Angelbeck and Schaepe 2004; Rafter 2001:106-07; Soto 2001; Stó:lō Nation 1998)
- Documented Transformation Sites/Stó:lō *Sxwôxwiyám*/Cultural Landscape Features, Spiritual Sites, and *Halq'eméylem* Place Names (McHalsie 2001)

3.1.1 Preliminary Determination of Archaeological Potential

Results of the background research were used to make a preliminary determination of archaeological potential as it applies to the Study Area. Archaeological potential was evaluated using the following types of information:

- the Chilliwack Forest District archaeological potential model developed by the Stó:lō Nation and the Chilliwack Forest District (Schaepe 2001; Golder 1999)
- proximity to previously recorded archaeological sites (RAAD)
- proximity to known but unrecorded archaeological sites (i.e., site leads)
- proximity to places with Aboriginal names
- proximity to documented historic and/or pre-contact trails/travel routes
- proximity to documented traditional land and resource use sites (SRRMC TUS database)
- vegetation and terrain mapping



- distance to water
- modeled slope less than 20%
- known disturbances
- ecological/biogeoclimatic literature
- geological and geomorphological literature
- paleoenvironmental literature

3.2 Fieldwork Review

An Archaeological Impact Assessment (AIA) was conducted on proposed log handling facility by Ursus Consulting:

- Archaeological Impact Assessment (AIA) Interim Report of Blocks HN120, HN124, HN125 and Log Dump (URS2016.01:13; Hicks 2016)

4.0 RESULTS

4.1 Background Research

Background research involved the review of relevant archaeological, ethnographic and historical literature, including a search of the provincial Remote Access to Archaeological Data (RAAD). The proposed log handling facility has potential because it is located adjacent Harrison Lake (Figure 2). In addition, the proposed log handling facility contains areas of GIS-modeled archaeological potential (Golder 1999; Schaepe 2001). See Appendix II for detailed results of the background research.

Several previously recorded cultural heritage sites/areas are recorded within a 1 km context zone of the Study Area, including one *Halq'éméylem* Place Name, one GIS-Modeled Travel Route, and one traditional land and resource use area (Figure 3), all of which are recorded within the Study Area and require further management (Section 5).



***Halq'eméylem* Place Name**

One *Halq'eméylem* Place Name is recorded within the 1 km context zone (Figure 3; Table 1), and it is recorded within the Study Area and requires further management (Section 5). Places with *Halq'eméylem* names are insightful indicators of past land and resource use, and as such, recognition of these places is an important component in the context of aboriginal rights and title.

TABLE 1 – *Halq'eméylem* Place Name within Context Zone

Place Name	Translation/Significance	Proximity
<i>Pepwpa:qotel</i> 2011i42s374	Harrison Lake; “splashing down off the mountain + water joining”; meaning probably from all of the streams from the mountains surrounding the lake	within

Halq'eméylem Place Names on the landscape are important to note in that they have the potential to provide insight into the cultural significance of a particular place, with regard to the significance of the geographic location itself, activities or events that took place there, or stories of the distant past, when the world was transformed by four bears, *Xexá:ls*, into its present form (*sxwóxwiáyám*, the “First People”, or Creation stories). There are over 700 *Halq'eméylem* Place Names throughout *S'olh Téméxw*. They also exist as places of power in a living landscape, upon which people seek spiritual power through various Stó:lō ceremonial and ritual activities (e.g., winter dance, fasting).

GIS-Modeled Travel Route

One GIS-modeled travel route is modeled within the 1 km context zone (Table 2; Figure 3), and it is modeled within the Study Area. GIS-Modeled Travel Routes are either thought to exist, but their existence has not been verified, or they are modeled to exist based on other known factors of the movement of people in a specific area. GIS-modeled trails require ground-truthing.

TABLE 2 – GIS-Modeled Travel Route within Context Zone

Trail ID	Description	Proximity
2014r72s56	modeled NW-SE along shore of Harrison Lake	within

The GIS-Modeled Travel Route identified above was extrapolated based on findings and characteristics of documented trails reviewed in the Tracking the Ancestors pilot study (Schaepe 1999). Trails were modeled at a scale of 1:130,000. A buffer is used to display the general location of the trails.



Aboriginal Trails and travel routes were used by the Stó:lō for travel and trade, to access seasonally abundant plant and wildlife resources, and for spiritual purposes. The majority of physical evidence of these trails no longer exists due to urbanization; however, a large percentage of contemporary transportation routes in *S'ólh Téméwx* coincide with these original pathways (Myles 1995). In cases where physical evidence of historic trails is still present, the trail itself may be subject to protection under the Stó:lō Heritage Policy (2003) and the provincial Heritage Conservation Act.

Traditional Land and Resource Use Area

One traditional land and resource use area is recorded within the 1 km context zone (Table 3; Figure 3), and it is located within the Study Area and requires further management (Section 5). Stó:lō use of the area surrounding the Study Area for fishing, gathering, hunting, habitation, and spiritual use has been documented by a variety of sources including traditional use studies, oral history, and ethnography.

TABLE 3 – Traditional Land and Resource Use Area within Context Zone

Site ID	Site Type	Description	Proximity
1996i13s1	Resource Harvesting: Hunting	deer hunting area around Harrison Lake; past year-round use	within

The inherent limitations of archaeology to document the entirety of past aboriginal use of the landscape must be clearly stated. For example, while ancient village sites in the region generally exhibit substantial archaeological evidence of past settlement and resource use, many other past cultural activities, such as plant gathering, hunting, traveling and spiritual practices, often leave few, if any, material traces. Spiritually powerful places in the landscape may have been purposely left untouched. Thus, archaeological evidence must be understood to demonstrate only a fraction of past aboriginal land and resource use in *S'ólh Téméwx*. Lack of physical evidence *does not* equate to lack of use or occupation of an area. These places which lack physical evidence of use are *no less significant* to Stó:lō people than archaeological sites. In addition, the locations of past and current traditional use activities may not be reported for a variety of reasons, including individual- and family-owned knowledge, privacy, taboo, and others. The results of this inventory of cultural heritage sites should not be considered comprehensive.



4.2 Fieldwork Review

The proposed log handling facility covers a 4-ha area on the northeast shore of Harrison Lake (Figure 2; Plate 1). Terrain in the area was found to be relatively level, with extensive disturbance from previous logging, blasting, and road construction activities (Hicks 2016). Hicks (2016) determined that the block had moderate archaeological potential due to the presence of old growth western redcedar. Two areas were subsurface tested, with negative results. No archaeological materials were identified as a result of the AIA (Hicks 2016).

The AIA report does not provide a large-scale map of the two subsurface test locations displaying the landforms and placement of shovel tests with which to evaluate shovel testing strategy effectiveness. For Loc 1, 3 shovel tests were placed in a 5 m x 5 m area. For Loc 2, 2 shovel tests were placed in a 5 m x 0.5 m area. The report notes that the testable area was limited due to the presence of a heavily cut road and pull out.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

No archaeological features or materials were identified in the proposed log handling facility as a result of the AIA fieldwork (Hicks 2016).

One *Halq'eméylem* Place Name, one GIS-Modeled Travel Route, and one traditional land and resource use area are recorded within the Study Area. No evidence of GIS-Modeled Travel Route 2014r72s56 was observed during the AIA. *Halq'eméylem* Place Name *Pepqpa:qotel* (2011i42s374) is located within the log handling facility, and requires further management. Hunting area 1996i13s1 is located within the log handling facility, and requires further management. Specific management approaches were derived from measures of development-specific impacts, and should be founded on the 'Framework of Management Measures and Options for Stó:lō Heritage Sites' defined in the Stó:lō Heritage Policy Manual (2003; Table 4).



Table 4 – Stó:lō Heritage Management Measures

Site Type	Preferred Management Measure	Secondary Option(s)	Comments
<i>sxwōxwiyám; xáxa; sxwó:yxwey</i>	avoidance / no impact	n/a	n/a
<i>stl'áleqem</i>	avoidance / no impact	minimize impact &/or mitigate impact	refer to environmental assessment process; enhance the natural qualities of the area if possible / applicable
spirit poles and spiritual (ceremonial) regalia	avoidance / no impact	options per direct consultation	<i>exception</i> - spirit poles are not to be disturbed or moved as a means of avoiding impact
burial / cemetery	avoidance / no impact	options per direct consultation	burials <i>may</i> be recovered and reburied under some circumstances
material culture	avoidance / no impact	minimize impact &/or mitigate impact	n/a
traditional activities	enhancement / avoidance / no impact	minimize impact &/or mitigate impact	maintain or enhance the traditional use activity potential of the area
named place	avoidance / no impact	minimize impact &/or mitigate impact	refer to environmental assessment process; enhance the natural qualities of the area if possible / applicable

5.2 Recommendations

Halq'eméylem Place Name *Pepqpa:qotel* (2011i42s374) is located within the log handling facility, and requires further management. Hunting area 1996i13s1 is located within the log handling facility, and requires further management. SRRMC management recommendations are presented below:

***Halq'eméylem* Place Name *Pepqpa:qotel* (2011i42s374)**

Pepqpa:qotel (2011i42s374), a *Halq'eméylem* Place Name, is located within the log handling facility, and is protected by the Stó:lō Heritage Policy (2003). As per the Stó:lō Heritage Policy (2003), the preferred management option for *Halq'eméylem* Place Names is avoidance or no impact. If avoidance of impacts to the area associated with *Pepqpa:qotel* cannot be reasonably imposed, it is recommended that BC Timber Sales:

- a) **Minimize and/or mitigate disturbances to *Pepqpa:qotel*.** A management plan addressing measures that will be taken to minimize and/or mitigate disturbances to *Pepqpa:qotel* should be devised by BC Timber Sales and distributed to the People of the River Referrals Office and the SRRMC for approval.



- b) **Enhance the natural qualities of *Pepqpa:qotel*.** The management plan should include details on plans to enhance the natural qualities of *Pepqpa:qotel*, including:
- i. Creating and enhancing habitat areas – planting native vegetation to support wildlife and removing invasive species.
 - ii. Creating opportunities for traditional land and resource use – hunting, gathering, bark stripping, etc.
- c) **Enhance cultural awareness of *Pepqpa:qotel*.** The Stó:lō Nation / Tribal Council encourage the contemporary re-application of known *Halq'emeylem* place names to otherwise alienated or re-named places within *S'ólh Téméxw*, provided their accurate and appropriate use. It is recommended that BC Timber Sales incorporate into development plans recognition of *Pepqpa:qotel* that details the importance of this specific place name and the significance of *Halq'emeylem* named places in general to Stó:lō culture. Such materials may include:
- i. Signage providing the *Halq'emeylem* place name and meaning, site significance, and related *Sxwôxwiyám* narratives, where appropriate.
 - ii. BC Timber Sales should consult directly with the SRRMC to devise appropriate materials related to *Pepqpa:qotel* to incorporate into development plans (e.g., translation and significance outlined in site plan and supporting information).

Hunting Area 1996i13s1

Hunting area 1996i13s1 is located within the log handling facility, and is protected by the Stó:lō Heritage Policy (2003). Hunting area 1996i13s1 is no longer in use. The hunting area requires further management. **Enhancement** of the hunting area is the preferred management option. To implement enhancement of the hunting area, it is recommended that:

- a) the log handling facility be harvested in the spring and summer prior to hunting season;



- b) BC Timber Sales replant the log handling facility with vegetation that will provide habitat suitable for deer to repopulate the area, once the log handling facility is no longer in use.

5.3 Land Use Decisions

Stó:lō connections and uses of the land represent aspects of their aboriginal rights and title. What the Stó:lō community currently does in the areas to which they have access, has been limited by encroachment, alienation of lands, and land use decisions in which they had no participation. However, Stó:lō culture is undergoing a revival, and as such, impacts associated with developments must be taken into consideration in the framework of cumulative effects - adding to those of previous developments which have impacted the environment of that area - as potentially affecting the exercise of aspects of Stó:lō aboriginal rights and title. It is suggested the relationship between future developments and issues of Stó:lō rights and title be dealt with by the affected Stó:lō communities.

5.4 Study Limitations and Unanticipated Materials

Even the most thorough inspection may fail to reveal the presence of all archaeological and other materials protected by the *Heritage Conservation Act* and the Stó:lō Heritage Policy (2003). Therefore, BC Timber Sales is advised that if any unanticipated cultural materials or features including, but not limited to, rock art, culturally modified trees, archaeological materials, or human remains are encountered prior to or during development or related activities, all land-altering work in the immediate area should cease, and the Archaeology Branch and the Stó:lō Research and Resource Management Centre should be contacted immediately so that an archaeological management plan can be developed and implemented. The results of this assessment address project-specific developments only.



Please be advised that Stó:lō Research and Resource Management Centre's participation in this Project does not constitute consultation with the Stó:lō Nation, the S'ólh Téméxw Stewardship Alliance, or any Stó:lō First Nation. Nothing in this report is intended to affect the exercise or scope of, or justify any infringement of any Aboriginal rights, nor shall anything in this report be interpreted as affecting the legal relationship between parties.

This report, and negotiations leading up to it, and information shared as a result of it, are without prejudice to any legal positions that have been taken or may be taken by either of the parties in any court proceedings, process or otherwise or any treaty or other negotiations, and shall not be construed as an admission of fact or liability in any such proceedings, process or negotiations.

The proponent can use the information in this report to inform management decisions and can exhibit this report in a court of law in any case that challenges their decisions.

The sharing of information in this report shall not be construed as concurrence with provincial policies.

Report Author:

Lisa Dojack, M.A.
Project Archaeologist/GPR Specialist
SRRMC



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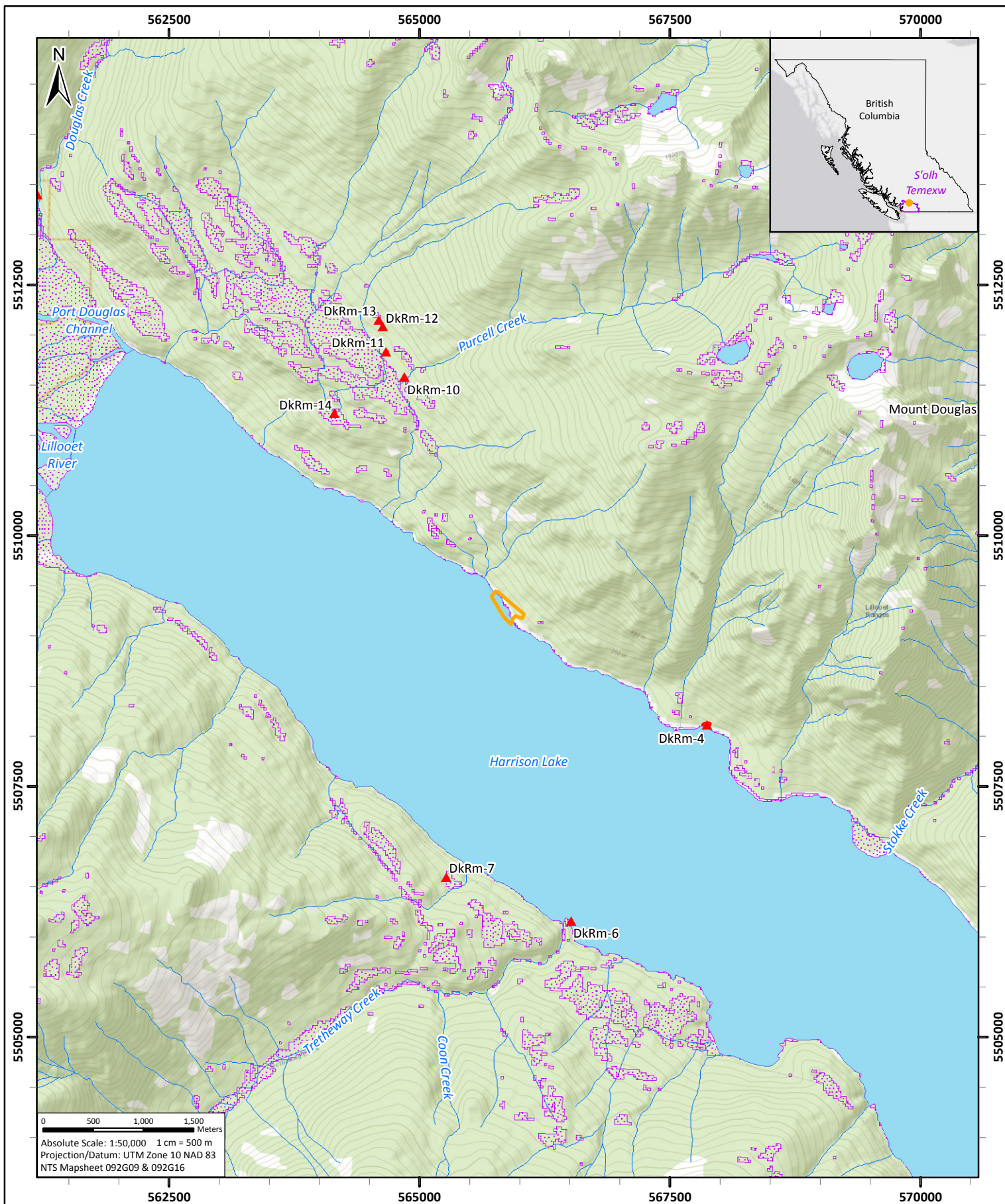
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APPENDIX I – FIGURES



Stó:lō Research and Resource Management Centre

PROJECT: H2019-044
Log Handling Facilities Harrison Lake

GIS	LMD	7/9/2019
QAQC	ABB	7/9/2019

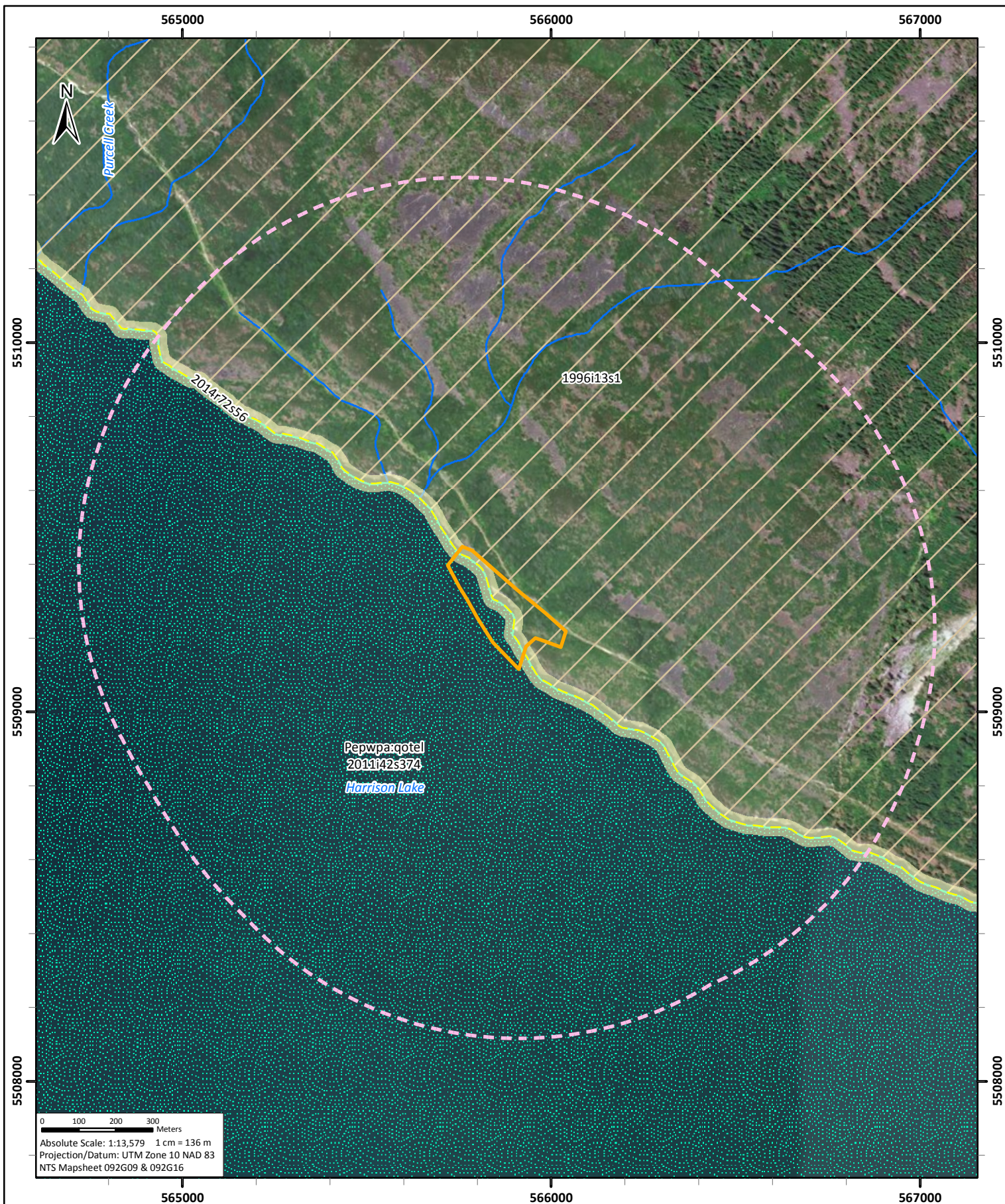
- Study Area
- Water Feature
- GIS-Modeled Archaeological Potential (Golder 1999)
- ▲ Previously Recorded Archaeological Site

TITLE: **Permit Area Overview Map**

Figure 1

PERMIT: SHIP 2019-150	DATE: 7/9/2019
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Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China



 Stó:lō Research and Resource Management Centre		
PROJECT: H2019-044 Log Handling Facilities Harrison Lake		
GIS	LMD	7/9/2019
QAQC	ABB	7/9/2019

- Study Area
- 1 km Context Zone
- GIS-Modeled Travel Route
- Hunting Area
- Stream
- Halq'eméylem Place Name

TITLE: **Cultural Heritage Overview**

Figure 3

PERMIT:
SHIP 2019-150

DATE:
7/9/2019

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

APPENDIX II – BACKGROUND RESEARCH: STUDY AREA SETTING RESULTS

Background Research: Study Area Setting Results	
Research	Detail
proximity to known but unrecorded archaeological sites (i.e., site leads)	<ul style="list-style-type: none"> • none in close proximity
vegetation and terrain mapping	<ul style="list-style-type: none"> • terrain sloping down to southwest
distance to water	<ul style="list-style-type: none"> • Harrison Lake within/adjacent • unnamed creek 175 m northwest
known disturbances	<ul style="list-style-type: none"> • roads • logging
ecological / biogeoclimatic literature	<ul style="list-style-type: none"> • Coastal Western Hemlock biogeoclimatic zone (Dry Submaritime Southern)
geologic and geomorphologic literature	<ul style="list-style-type: none"> • Slollicum Schist – Cretaceous to Tertiary greenstone, greenschist metamorphic rocks; mainly greenschist-grade mafic to intermediate volcanics, phyllite, minor volcanic- and carbonate-clast supported conglomerate; metamorphosed in the Cretaceous • topography defined by glacial modified landforms
paleoenvironmental literature	<ul style="list-style-type: none"> • 15,000 BP Study Area covered by glacial ice, by 11,000 BP region more or less ice-free • between 11,000 BP - 5,000 BP temperature warmer and drier and between 5,000 BP and present, temperature and precipitation reached modern trends
GIS archaeological potential model	<ul style="list-style-type: none"> • <5%

APPENDIX III – ADDITIONAL FIGURES

