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ARCHAEOLOGICAL OVERVIEW ASSESSMENT

Uplands Combined Sewer Separation Project Pre-Design, Oak Bay, British Columbia

Submitted to:

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REPORT



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Executive Summary

At the request of McElhanney Consulting Services Ltd, Golder Associates Ltd. conducted on the behalf of the Corporation of the District of Oak Bay an archaeological overview assessment during predesign for the proposed Uplands Combined Sewer Separation Project, in Oak Bay, British Columbia (Figure 1). The Project Area is located in the Uplands Subdivision within the Corporation of the District of Oak Bay, encompassing approximately 400 homes across 130 ha. The location is serviced by a combined sewer system in which the domestic sewage from homes and runoff from roads and impermeable surfaces on the residential lots is conveyed in a single pipe. As a condition of the Capital Regional District's Core Area Liquid Waste Management Plan the District of Oak Bay is required to separate the combined sewers in the Uplands Subdivision. This archaeological overview assessment was requested for the predesign phase of the Project to assist in management of archaeological resources that might be situated in the Project Area.

The objectives of the AOA were to: 1) identify registered archaeological and historic sites within the Project Area, to the degree possible, using existing records; 2) evaluate the potential for encountering currently undocumented archaeological sites within the Project Area; 3) Provide management recommendations to avoid known conflicts; and 4) assess the need for additional archaeological investigations (e.g., archaeological impact assessment) prior to development. The Project Area is situated in a location where the Esquimalt Nation and Songhees Nation have Aboriginal interests.

The archaeological overview assessment consisted of a review of existing archaeological information, traditional land use information, historical information, and maps relevant to the Project Area. The results of the background review indicate that there are six precontact archaeological sites registered within the Project Area: DcRt-8, DcRt-14, DcRt-20, DcRt-71, DcRt-111 and DcRt-124. An additional two unrecorded archaeological sites may also be located in the Project Area. These archaeological sites include precontact shell midden, petroforms (i.e., burial cairns), cultural depressions, habitation features, subsistence features, earthwork features, subsurface cultural materials and ancestral remains. In addition, seven registered historic buildings are located within the Project Area: DcRt-123, DcRt-170, DcRt-175, DcRt-188, DcRt-229, DcRt-230, and DcRt-242.

According the CRD Potential Model, areas with potential to contain undocumented archaeological sites are located within the Project Area, both within the municipal lands and on private property. In addition, proposed developments have the potential to impact archaeological sites and heritage sites that might be located in the Project Area. A preliminary field reconnaissance was conducted of the Project Area to verify and refine the results of the archaeological potential modelling.

Based on the results of this assessment, Golder recommends that an archaeological impact assessment be conducted within the portions of the proposed Project Area that are assessed as having archaeological potential once the location of the proposed rights-of-way has been determined. The intent of the archaeological impact assessment would be to locate and record archaeological sites that may be impacted by proposed development, and to develop site protection or mitigative options for the protection of these archaeological sites.

This report has been redacted to remove references to specific locations of archaeological sites protected under the *Heritage Conservation Act*.



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APPENDIX A

Archaeology Branch Found Human Remains Policy



1.0 INTRODUCTION

At the request of McElhanney Consulting Services Ltd. (McElhanney), Golder Associates Ltd. conducted on the behalf of the Corporation of the District of Oak Bay (the District of Oak Bay) an archaeological overview assessment (AOA) during the predesign phase for the proposed Uplands Combined Sewer Separation Project in Oak Bay, British Columbia (BC). The Project Area is situated in the 800 ha Uplands Subdivision in the District of Oak Bay (Figure 1). Currently, this subdivision is serviced by a combined sewer system where the domestic sewage from homes and runoff from roads and impermeable surfaces on the residential lots is conveyed in a single pipe. As a condition of the Capital Regional District's Core Area Liquid Waste Management Plan, the District of Oak Bay is required to separate the combined sewers in the Uplands Subdivision. The exact location of the proposed pipeline infrastructure has yet to be determined; McElhanney has requested this report to assist in management of archaeological resources that might be affected by the development.

The AOA consisted of a desktop study and a preliminary field reconnaissance (PFR) to assess the potential for archaeological sites to exist within the Project Area and to provide recommendations for the management of archaeological resources, where warranted. The objectives of the AOA were as follows:

- Identify registered archaeological and historic sites within the Project Area, to the degree possible, using existing records;
- Evaluate the possibility for encountering unrecorded archaeological sites within the Project Area;
- Provide management recommendations to avoid know conflicts; and,
- Assess the need for more detailed archaeological investigations prior to development, including archaeological impact assessment (AIA).

The Esquimalt Nation and Songhees Nation has Aboriginal interests that extend into the Project Area.

This report has been redacted to remove references to specific locations of archaeological sites protected under the *Heritage Conservation Act*.

2.0 PROVINCIAL LEGISLATION

All archaeological sites on Provincial Crown or private land that predate 1846 A.D. are automatically protected under 1996 amendments to the *Heritage Conservation Act* (HCA). Certain sites, including burials and rock art sites, that have historical or archaeological value, are protected regardless of age.

Subsurface investigation of an archaeological site or investigation with the intent to locate a site requires a permit under Section 14 of the HCA. The Archaeology Branch at the Ministry of Forests, Lands and Natural Resource Operations is the provincial government agency responsible for administering the HCA, including issuing permits and maintaining a database of recorded archaeological sites.

Site protection under the HCA does not necessarily negate impact; in some cases, development proceeds following an impact assessment or other mitigative actions. With the exception of impacts occurring under a Section 14 permit, any alteration to a known archaeological site must be permitted under Section 12 of the HCA. A Section 12 permit is held by the individual responsible for the site alteration and may include data recovery or mitigative requirements such as monitoring or data sampling.

All applications for Section 12 or Section 14 HCA permits are forwarded by the Archaeology Branch to appropriate First Nations for review. In most circumstances, a 30-day review period is provided for comments regarding proposed methodologies.



3.0 PROJECT DESCRIPTION

The Project Area is located within the Uplands Subdivision in the District of Oak Bay, BC (Figure 1). Specifically, the Project Area is located south from the junction of Cadboro Bay Road and Beach Drive. The south half of the development will be located north of Uplands Park; the east and west boundaries of the development are formed by ocean from properties along Beach Drive and Cadboro Bay Road, respectively.

The District of Oak Bay has been mandated by the province to achieve sewer separation in the Uplands Subdivision providing separate sanitary sewer and stormwater services to each property. Currently, the District of Oak Bay encompasses approximately 1053 ha with 7,764 private dwellings, as well as multiple commercial and municipal buildings. The Uplands Subdivision is 130 ha in size with approximately 400 homes requiring sewer separation.

For the predesign phase of the Project, the District of Oak Bay is currently assessing different options for separate sanitary and stormwater systems. Specific Project rights-of-way have not yet been proposed for the development as different options are considered that meet provincial requirements and that are cost effective, and minimize affects to the local environment and archaeological resources.

Alteration of the landscape can result in the damage or complete destruction of all or portions of archaeological sites. These alterations often involve the displacement of artifacts, resulting in the loss of valuable contextual information, or may involve the destruction of the artifact and feature themselves, resulting in complete information loss. While these losses are usually permanent and irreversible, the effects can be offset through the implementation of effective mitigation procedures.

In general, land-altering activities associated with proposed Project activities that could impact archaeological sites may include, but are not necessarily limited to, clearing and grubbing, drilling, grading and levelling, trench excavation, excavation of underground chambers, shoring installation, and directional drilling.

4.0 PROJECT SETTING

4.1 Physical Setting

An understanding of the physical setting of the Project Area is important to heritage research. Land uses, settlement patterns, and subsistence practices of First Nations and non-native peoples are often adaptations to specific environments; physical factors, such as terrain, climate, proximity to water and vegetation, can influence the location, preservation, and visibility of archaeological sites. In addition, traditional land use practices are frequently related to the location, accessibility and quantity of culturally-valued animal and plant species.

Preservation of archaeological sites can be affected by geological processes. Certain factors, such as unusually dry or wet soil conditions, can enhance preservation of organic archaeological materials, while other processes such as flooding and erosion can disturb, displace, and destroy archaeological evidence. Recent human development activities may alter the physical setting and thereby directly or indirectly affect archaeological site preservation. In the District of Oak Bay, these activities might include the removal or covering of archaeological sediments with fill in the course of constructing buildings, roads, sewerlines and other infrastructure.



The Project is located near the south end of Vancouver Island in BC (Figure 1). The area is protected from open ocean swells, but with potential access to many important coastal resources including offshore reefs and clam beds.

The region consists of residential properties and landscaped green space. The Project Area has been landscaped and is treed with a variety of native and introduced plant species.

4.1.1 Palaeoenvironment

Sea level change and glacial advance/retreat have played a major role in the availability of locations suitable for human habitation over time in the Capital Regional District. The present-day topography of the Project Area has been formed and altered through epochs of geological processes. Biotic variability within this region is the result of fluctuating climatic conditions, influenced by the region's physiography. Deglaciation at the end of the last glacial maximum resulted in rapid sea-level change that did not occur uniformly throughout the region. As a result, sea-level histories are restricted to specific areas (Hutchinson 1992). Sea level change within the District of Oak Bay has not been thoroughly investigated; however, data for the Strait of Juan de Fuca have been studied and are presented below.

Recent data from Strait of Juan de Fuca indicates that around 12,000 BP¹ the relative sea-level began to fall below modern day levels. Around 9,900 BP sea-levels were 60 m below modern levels and at this time they began to rise again (Mosher and Hewitt 2004). In the eastern Juan de Fuca Strait, present day sea levels were reached by 5,500 BP.

For the southern Strait of Georgia, Hutchinson (1992) has reconstructed the relative Holocene Epoch (12,500 BP to present) sea level change through radiocarbon dating of samples obtained from Victoria and to a lesser degree the Gulf Islands (e.g., Galiano Island and Salt Spring Island). This study shows that the relative sea level must have dropped to 10 m below present day levels (bsl) by the late Pleistocene or early Holocene (Hutchinson 1992:47) from a postglacial maximum of 75 m above sea level (asl) at roughly 13,000 BP. In the southern Gulf Islands, the relative sea level dropped to a low stand of 20 to 30 m bsl around 10,000 BP, rising rapidly to about 10 m bsl by about 7,000 BP, and subsequently rising at a more gradual rate to the present day sea levels (Fedje et al. 2009).

Human occupation on Vancouver Island and the southern Gulf Islands has been firmly dated to 5,000 BP, but may extend as far back as 11,750 BP (Fedje et al. 2009). Although sea level data is lacking for Esquimalt Harbour, the regional data suggest lower sea levels were concurrent with human occupation of the area. Consequently, the potential exists that the seabed by the District of Oak Bay may represent submerged landscapes that were exposed and utilized by people in the past.

¹ A dating convention usually associated with radiocarbon dating. BP stands for Before Present, with present being accepted as AD 1950 by convention.



4.1.2 Present Environment

The Project Area is situated within the Coastal Douglas–fir Biogeoclimatic Zone (CDF) (Nuszdorfer et al 1991; Meidinger and Pojar 1991). This zone is limited in extent, encompassing portions of southeastern Vancouver Island, several of the islands in the Strait of Georgia and a narrow strip of the adjacent Lower Mainland (Nuszdorfer et al 1991:82-83).

Douglas fir is the most common tree species found within CDF forests. Other common forest constituents include western red cedar, grand fir (*Abies grandis*), arbutus, Garry oak, and red alder (*Alnus rubra*). Western hemlock (*Tsuga heterophylla*) occurs infrequently within the CDF (Nuszdorfer et al 1991:82-83). The use of cedar by First Nations was common in the past and is evidenced, for example, by bark strip and plank removal scars on trees. The slow burning bark of Douglas fir would have served as an excellent source of fuel, and the wood serves many utilitarian purposes.

There are two creeks in the District of Oak Bay, Bowker Creek and Hobbs Creek. Bowker Creek was once the largest watercourse in the area, its watershed extends from the University of Victoria south to Willows Beach. Hobbs Creek drains east from Mystic Vale, an area of second growth Douglas fir forest situated on the University of Victoria campus, into Cadboro Bay. Prior to being developed, these watersheds supported an extensive Garry Oak meadow and woodland.

Shoreline topography consists of rocky points forming several gently to steeply sloping coves and inlets, including from north to south Cadboro Bay, Loon Bay (between Flamborough Head and Spurn Head), Spoon Bay (between the points Skegness and The Naze), Shingle Cove (south of the point The Naze), Funnel Cove, Flotsam Cove and Oak Bay (south of Cattle Point). Approximately 250 m inland from the ocean shore between Loon Bay and Cattle Point, the terrain is relatively level; west from Exeter Road, the terrain is gently sloping, rising from 10 meters above sea level (masl) to over 100 masl at Mount Tolmie located immediately to the west of the west boundary of the District of Oak Bay. There are several smaller hillocks located in the District of Oak Bay, including in Henderson and Uplands Park, as well as a long ridge that extends from Hobbs Creek south to the traffic island on Midland Road. The local terrain has been modified by residential and commercial development, including extensive landscaping.

Many of the plants, sea life and animals found within the region were, and continue to be, important to First Nations. Particular locations within the landscape would be seasonally attractive due to various factors such as the ripening of berries, seasonal migrations of fish or waterfowl, and availability of potable water. Additional information regarding the use of local floral and faunal resources used by First Nations can be found in Barnett (1955), Suttles (1958, 1960, 1968, 1987, 1990), Turner (1995), and Turner and Bell (1971).

The Project Area contains plant foods that were sought after by First Nations. Berries were particularly abundant; important food plants include berries, lilies, roots and greens. Prescribed or intentional burning increased both the quantity and quality of the yield (Turner 1991; Lepofsky et al. 2005:223-226). Blue camas, tiger lily, cow parsnip, and fireweed grow in the biogeoclimatic zone and were actively collected. Other plants, such as Devil's club, sagebrush, roses, juniper and stinging nettle were often gathered for medicinal purposes. Grasses, rushes, nettles and sedges provided raw materials for basketry, mats and other uses.



Game and fur-bearing mammals are available in the Project Area including black-tailed deer (*Odocoileus hemionus columbianus*) Wapiti (*Cervus elephus*) and beaver (*Castor canadensis*). For First Nations, these animals provided (and still provide) food, while the hides, bone, and antler or horn supplied raw materials for clothing, tools and other items. Mild winters provide suitable habitat in the CDF for several waterfowl, including Canada goose, swan, great blue heron and several species of duck. Birds were taken for food but their feathers and bones were utilized as well.

Fish and shellfish were very important to coastal First Nations subsistence. Rockfish (family *Scorpaenidae*), greenling (*Hexagrammos* sp.), flatfish (family *Pleuronectidae*), sculpins (family *Cottidae*), clams (family *Veneridae*), mussels (family *Mytilidae*), cockles (family *Caridiidae*), among others, were available year-round in the estuaries (Barnett 1955; Suttles 1968, 1987, 1990). Herring (*Seriphus ploitus*) were harvested in vast quantities in sheltered waters in the late winter during the spawning season (Barnett 1955; Suttles 1968, 1987, 1990). Freshwater fish, such as trout (e.g., *Oncorhynchus mykiss*) were available in the lakes, streams, and marshes. However, the most culturally significant fishes were the five species of salmon: Coho, Chinook, Pink, Sockeye, and Chum (*Oncorhynchus kisutch*, *Oncorhynchus tshawytscha*, *Oncorhynchus gorbuscha*, *Oncorhynchus nerka* and *Oncorhynchus keta*) that spawn in the region's rivers and streams. Salmon were taken in large quantities by reef netting in the Strait of Juan de Fuca and Haro Strait and during the fall spawning season in local streams and rivers (Duff 1969; Barnett 1955; Suttles 1990). These fish were smoked and stored for use during the winter months.

5.0 METHODS

The AOA proceeded through three phases: 1) background research, 2) PFR, and 3) analysis and reporting. Locations within the Project Area considered to have potential for containing archaeological sites were identified through background research and the PFR.

5.1 Background Research

A review of readily available data regarding local and regional prehistory, history, ethnography, and the environment of the Project Area was undertaken. Included in this review were archaeological site records, and archaeological overview and impact assessment reports on file with the Archaeology Branch. The Provincial Heritage Registry was also searched to establish whether any previously recorded archaeological sites are found in the Project Area, and to determine the types of sites that may be located in, and in the vicinity of, the Project Area.

A review of maps and digital imagery provide a method to identify topographic features such as knolls, ridges, benches, terraces, eskers, and paleo-shorelines that may display archaeological potential. An analysis of topographic maps and orthophotos was undertaken to determine if there were topographic features that may contain as yet undiscovered archaeological sites within the Project Area.



5.2 First Nation Liaison

The Archaeology Branch determined that the Esquimalt Nation and Songhees Nation have Aboriginal interests that extend into the Project Area. Prior to proceeding with the AOA, Chief Sam of the Songhees Nation was engaged in order to inform of the Project and to seek his input into the archaeological assessment. In addition, a representative from the Songhees Nation was invited to participate in the PFR.

5.3 Archaeological Potential

The previously developed Capital Regional District (CRD) archaeological potential model was reviewed. Some factors considered indicative of archaeological potential include: level or nearly level terrain within 100 m of water features, recorded archaeological sites, or areas of known precontact resource procurement (e.g., a lithic quarry area); well-drained terrain; areas within obvious transportation corridors (particularly where trails ford streams); areas that provide good vantage points; areas that contain tree stands older than A.D. 1846; and, areas associated with particular ethnographic information or Aboriginal place names. Topographical and micro-topographical features, such as promontories, small rises or subtle changes in elevation, knolls, ridges, caves and rock shelters and terraces are also considered to have archaeological potential (Golder 2007).

Factors generally considered to constrain potential for protected archaeological sites include: steep or rough terrain, particularly areas in excess of 100 m from a prominent hydrological feature; poorly drained terrain; massively disturbed areas (i.e., aggregate extraction); unbroken slope; and tree stands younger than 1846 A.D.

5.4 Preliminary Field Reconnaissance

The results of the archaeological potential model were subject to a PFR that included a limited amount of ground-truthing to gain insights into the accuracy of the model. The PFR was also used to evaluate terrain conditions, such as microtopographic features, not apparent on available mapping or orthophotos. The results of the model verification and terrain assessment exercise were used to help guide future field studies and model refinements. Information recorded in the field was mapped using a hand held GPS and was augmented with digital photographs and detailed field notes. As the PFR was not conducted under a HCA permit, subsurface testing was not carried out.

5.5 Analysis and Reporting

This AOA report consists of a summary and synthesis of the data that was collected during the desktop review and an assessment of the archaeological potential expected within the Project Area. Management recommendations regarding possible future work are found at the end of this report, should the District of Oak Bay proceed with the Project.



6.0 RESULTS

6.1 Archaeological Setting

A great deal of archaeological research and assessment has taken place southern Strait of Georgia region, particularly in Victoria and the Lower Mainland. The research undertaken has contributed to the development of a regional chronology that spans over 8,500 years (Matson 1976, 1992). Comparatively little is known about the early occupation of southern Vancouver Island. However, the archaeological record over the past 5,000 years or so reveals an increasing reliance on salmon, along with the corresponding development of complex societies, with evidence of wealth accumulation, hereditary status, social stratification, semi-sedentism and population aggregation.

6.1.1 Previous Registered Archaeological Sites

A review of background materials including archaeological site records and reports was conducted. A review of recorded archaeological site information available through the Provincial Heritage Register revealed that there are six precontact archaeological sites that have been previously registered within the Project Area: DcRt-8, DcRt-14, DcRt-20, DcRt-71, DcRt-111 and DcRt-124 (Table 1; Figure 1). An additional four precontact archaeological sites are located within 500 m of the Project Area: DcRt-9, DcRt-10, DcRt-19 and DcRt-34 (Table 2; Figure 1). These archaeological sites include precontact shell midden, petroforms (i.e., burial cairns), cultural depressions, habitation features, subsistence features, earthwork features, subsurface cultural materials and ancestral remains.

6.1.1.1 Previous Registered Archaeological Sites in the Project Area

DcRt-8 is a subsurface precontact shell midden that contains evidence of habitation features, subsistence features, and cultural materials, as well as ancestral remains. The site was originally recorded in 1959 by the Provincial Museum and revisited in 1975 during an archaeological reconnaissance of the southwestern Gulf of Georgia (Acheson et al. 1975). Since 1989, the site has been subject to several archaeological assessments in advance of residential development and municipal infrastructure improvements (Eldridge 1989; Mathews 2001; O'Neil and Wilson 2005; Willows 2010; Golder 2015).

Table 1: Previously Registered Precontact Sites in the Project Area

Site Name	Size	Description
DcRt-8	30 m x 480 m	Subsurface precontact shell midden, human remains, habitation features, subsistence features, and cultural materials
DcRt-14	30 m x 180 m	Subsurface precontact shell midden, human remains, and earthwork feature
DcRt-20	300 m x 300 m	Precontact burial cairns
DcRt-71	40 m x 300 m	Precontact subsurface shell midden
DcRt-111	not available	Precontact subsurface shell midden and human remains
DcRt-124	not available	Precontact burial cairns



DcRt-14 is a shell midden site. The site was originally documented in 1959 by the then Provincial Museum at which time human remains were removed from the site. A double trench embankment measuring approximately 30 m in length and 5 m wide with a height of 1.5 m was recorded perpendicular to the shoreline in the late 1960s (Buxton 1969), but was later destroyed by housing development in the 1970s (Keddie pers. comm., February 2012). The site was revisited in 1975 (Acheson et al. 1975) and described as being in fair to poor condition. An emergency salvage excavation during construction in 1996 recovered two human burials. Several additional burials were encountered during landscaping in 2007 (Keddie pers. comm., February 2012).

DcRt-20 is a petroform site located in the Project Area. The site is comprised of 54 cairns ranging in size from 1.7 m to 5.7 m in diameter. The site was first documented in 1901 (Smith and Fowke 1901); however, there is evidence that some of these features were excavated in 1898 by members of the Natural History Society, resulting in the recovery of ancestral remains from three of the cairns that have since been repatriated to local First Nations (Grant Keddie, Royal BC Museum; personal communication, February 2012). A revisit in 1961 found only 13 of the cairns were intact, the remainder having been disturbed or destroyed.

DcRt-71 is a shell midden site that was recorded in 1975 (Acheson et al. 1975) and extends along a 300-m length of the coastline, and continues inland for approximately 40 m. Approximately 20% of the site is located within the Project Area.

DcRt-111 is a precontact subsurface shell midden containing ancestral remains. A human burial at the site was excavated from the site in 1996 (Oliver 1996). Afterwards, the site was at least partially destroyed during machine excavation and blasting in the vicinity.

DcRt-124 is a petroform site located in the Project Area. The site was photo documented in 1901 (Smith and Fowke 1901). In 2010, the University of Victoria initiated a mapping project to identify and plot the location of cairns in the area (Mathews, pers. comm. May 2012). However, it is not clear which of the observed features from 2010 correspond to the cairns recorded in 1901.

Keddie (Royal BC Museum, personal communication, October 8, 2015) reports that he observed two cairn sites in the Project Area in the 1970's and 1980's. Neither of these sites have been registered with the Archaeology Branch and as such have not been provided with a permanent Borden Number. The first cairn site included two cairn features. The second cairn site consisted of two, 2 to 3 m in diameter cairn features. None of the features from these two sites were observed in the PFR, and were likely destroyed during landscaping activities in the area over the last 40 years. However, intact burial features may still be located in the buried soils and sediments at this location.

6.1.1.2 Previous Registered Archaeological Sites within 500 m of the Project Area

DcRt-9 is a subsurface precontact shell midden containing cultural materials, as well as ancestral remains located 25 m north of the Project Area. Possible diagnostic artifacts include stemmed, basally notched and triangular projectile points. The current boundaries of the site are 360 by 120 m, with less than 5% of the site remaining intact. The site was first recorded in 1959 by the Provincial Museum and revisited in 1975 (Acheson et al. 1975); in 1986, a human burial was excavated at the location by the Provincial Museum (Keddie 1986; Knusel 1990). Subsequently, AIA has been conducted at the site in advance of residential development and municipal infrastructure improvements (Eldridge 1989).



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Table 2: Previously Registered Precontact Sites within 500 m of the Project Area

Site Name	Size	Description
DcRt-9	120 m x 360 m	Subsurface precontact shell midden, human remains, and cultural materials
DcRt-10	40 m x 1080 m	Subsurface precontact shell midden, human remains, petroforms, cultural depressions and cultural materials
DcRt-19	10 m x 110 m	Subsurface precontact shell midden
DcRt-34	5 m x 8 m	Precontact burial cairn

DcRt-10 is located south of the Project Area. Extensive investigations have been conducted at the precontact shell midden site, identifying a variety of cultural materials, as well as petroforms, cultural depressions and ancestral remains. Millennia conducted an AIA at 2072 Esplanade in 2007 and in 2009 I.R. Wilson conducted an AIA of 2744 Bowker Avenue, within the boundary of DcRt-10. All subsurface tests yielded intact cultural deposits, with denser cultural deposits located at the eastern edge of the property. These cultural deposits were found as deep as 190 cm depth below surface (dbs) near the beach, and gradually grew shallower to the west where cultural material was found between 50 and 85 cm dbs at the shallowest point (Owens et al. 2007: 13). Observed shell midden include intact deposits, as well as disturbed deposits where artifacts were mixed with historical material.

DcRt-19 is a subsurface precontact shell midden site located south of the Project Area. It was recorded in 1959 by the Provincial Museum and revisited by Acheson in 1975 (Acheson et al. 1975) and again in 1989 during an assessment for the East Coast Interceptor Project (Eldridge 1989). The current boundaries of the site are 110 by 10 m, but only a small portion of the site remains intact.

DcRt-34 is a single precontact cairn containing human remains. The feature was first reported to the Archaeology Branch by the property owner west of the Project Area. The site has never been investigated by a professional archaeologist.

6.2 Ethnographic Setting

The Archaeology Branch (Eric Forgeng; personal communication; July 16, 2015) identified the Esquimalt Nation and Songhees Nation as having Aboriginal interests within the Project Area. The Esquimalt and Songhees Nation members speak Northern Straits Salish, one of five language groups present in the Central Coast Salish culture area (Suttles 1990). Northern Straits Salish was spoken on the southeast corner of Vancouver Island, the San Juan Islands, and along the mainland from Point Roberts and Boundary Bay to Deception Pass (Duff 1969; Suttles 1987, 1990).

Prior to contact with Euro-Canadians, this group lived in relatively independent household groups, each of which had a main winter village, but moved seasonally to undertake a variety of subsistence activities (Barnett 1955; Suttles 1990). After contact, the group became collectively known as the Songhees (or Songish) (Duff 1969). The Northern Straits Salish term for all these local groups was Lekwungen, which today is represented by the Songhees and Esquimalt Nations.



Detailed information on Esquimalt and Songhees Nation culture, including social structure, political organization, demographics, treaties, material culture, medicine, life cycle, effects of disease, subsistence, ethnobotany, language, beliefs and customs, secret societies, food preparation, pastimes and other aspects can be found in: Barnett (1955), Boas (1890), Duff (n.d., 1964, 1969), Galois and Harris (1994), Hill-Tout (1907), Kennedy and Bouchard (1995), Mitchell (1968), Suttles (1951, 1958, 1960, 1968, 1987, 1990), Turner (1995), and Turner and Bell (1971).

6.3 Historical Setting

Europeans began to explore the shores of Vancouver Island in the 1790s. By the mid-19th century, the British had established a permanent presence on southern Vancouver Island. In 1843, the Hudson's Bay Company (HBC) sent James Douglas to Victoria and Esquimalt Harbours to find a new site for their operations. A fort was built in Victoria Harbour, and the area adjacent to Esquimalt Harbour was acquired from the local First Nations for its promising agricultural farmland (see Duff 1969 and Harris 2002 for information regarding treaties). Farms were subsequently started within the District of Oak Bay in the latter part of the 19th Century, including the ca. 1850 A.D. Tod House, the oldest continuously occupied home in BC.

Diseases introduced through contact with Europeans, including dysentery, measles, and influenza, took a toll of the local First Nations populations, particularly in the 1840s (Keddie 2003). The surviving population moved to a year-round village location in Victoria Harbour directly opposite the Hudson's Bay Company fort.

The District of Oak Bay was incorporated in 1906. Initially cottages were constructed along the seashore, but as infrastructure improvements were completed, additional housing was constructed further inland. In 1907, the current location of the Uplands Subdivision was purchased by John Robert and Dawson Turner in order to create a model residential development comprised of large lots with landscaped gardens centred around Uplands Park.

There are no historical buildings in the Project Area that were constructed before 1908 (Corporation of the District of Oak Bay 2008). There are presently 14 houses in the Project Area that were constructed between 1908 and 1918 (Corporation of the District of Oak Bay 2008). Most of the houses within the west half of the Project Area were constructed between the two World Wars; with the homes in east half of the Project Area built primarily after the Second World War (Corporation of the District Oak Bay 2008).

There are currently seven registered historic buildings are located within the Project Area: DcRt-123, DcRt-170, DcRt-175, DcRt-188, DcRt-229, DcRt-230, and DcRt-242 (Table 3; Figure 1). These historic structures include some of the original residences in the District of Oak Bay. The historical designation provides and reflects the commemorative value of these structures, but does not provide legal status for the protection of these structures. Parks Canada's *Standards and Guidelines for the Conservation of Historic Places in Canada* (Parks Canada 2010) should be considered in designing above ground infrastructure that are compatible with the existing structures and that protect the character of these registered historic buildings.



Table 3: Previously Registered Historical Sites in the Project Area

Site Name	Type / Name	Location
DcRt-123	Residence	3385 Upper Terrace Road
DcRt-170	Residence / Balgreggan	3000 Rutland Road
DcRt-175	Residence / Valrose	3125 Uplands Road
DcRt-188	Residence / Turner House	3110 Weald Road
DcRt-229	Residence / Achtem House	3225 Beach Drive
DcRt-230	Residence / Mayhew House	3515 Beach Drive
DcRt-242	Residence / Little/Oaks	3165 Tarn Place

6.4 Archaeological Potential Assessment

One of the goals of this AOA was to evaluate the possibility for encountering unrecorded archaeological sites within the Project Area. An archaeological potential model previously developed for the CRD encompasses the Project Area. This model uses several different terrain variables that are typically associated with archaeological sites in the region. These variables include such ecological classes as distance to the ocean, permanent, intermittent and ephemeral streams and lakes, and slope, as well as cultural parameters such as registered archaeological sites. The purpose of this model is to permit researchers to not only understand where there is a high potential for archaeological resources, but also to identify possible conflicts between proposed developments and archaeological sites in areas where little or no archaeological inventory data exist.

The archaeological potential model results were supplemented by a review of historical maps and satellite imagery to assess the local topography, including significant topographical features, in the vicinity of the proposed development. A PFR was also conducted to verify the results of the archaeological potential model. The PFR concentrated on identifying microtopographic features within the Project Area, such as small ridges and knolls, which cannot be distinguished from the surrounding terrain using map scales available for regional modelling. These topographic features have proven to be valuable for the identification of archaeological sites.

The CRD archaeological potential model identifies select locations within the Project Area as having archaeological potential (Figure 1). The areas of archaeological potential are mainly associated with locations within 100 m of the Salish Sea, and level terrain associated with large benches and terraces in the Project Area.

This archaeological potential ranking is consistent with ethnographic and traditional use data. The ocean was a key resource for Coast Salish peoples, providing food and the materials to make a wide variety of material culture, including tools, clothing and other utilitarian and spiritual items. Habitation and earthwork structures have been previously recorded in proximity to the ocean, as well as dense accumulations of shell midden and associated cultural materials and features.

Inland level benches and terraces were commonly used during the precontact period. These topographic features would provide superior views of the surrounding landscape and could act as defensive positions. Locations that received early morning sunlight would be particularly attractive for campsites.

Recent research has focussed on the distribution of burial cairns on southern Vancouver Island, including within the District of Oak Bay. These sites seem to be strategically placed at select locations across the region as social markers potentially indicating specific use of the surrounding landscape (Mathews 2006, 2014). Because



of archaeologists limited understanding of these distribution patterns, archaeological potential models have not yet been developed that would accurately identify specific geographic and environmental features where these sites may be situated. Cairn features previously identified in the District of Oak Bay and surrounding areas (i.e., Beacon Hill Park) would suggest that these sites are located on prominent landforms such as hills and ridges, locations not always identified as having archaeological potential in the CRD Model.

6.5 Results Summary

There are six registered archaeological sites in the Project Area and four additional registered archaeological sites within 500 m of the Project Area; two non-registered archaeological sites are reported to also be located in the Project Area. These 12 sites include culturally significant sites such as shell middens, house remains and human burials. Review of the previously developed CRD archaeological potential model, supported by a PFR, suggests that there is potential for additional unrecorded archaeological sites to exist in the Project Area. These sites are likely to be associated with the ocean and in the uplands, level terrain adjacent to benches and terraces. There is also potential for undocumented burial cairns to be located along the hillsides within the Project Area; however, because of limited data available on the location of these features, cairn potential could not be mapped.

7.0 RECOMMENDATIONS

Recommendations were formulated from the results of this AOA. There are six registered archaeological sites and two unrecorded archaeological sites in the Project Area. Seven of these archaeological sites likely contain human remains. Human burials are provided special protections under Section 13 of the *Heritage Conservation Act*. Archaeological potential modeling, supplemented by PFR, has also identified select areas within the Project Area that have the potential to contain unidentified archaeological resources.

It has been demonstrated that proposed developments in the Project Area can adversely affect archaeological resources. These effects can include direct and indirect impacts to archaeological resources from construction of the sewage lines. All archaeological sites, known and unknown, on Provincial Crown or private land that predate 1846 A.D. are protected under the *Heritage Conservation Act*.

Because of the archaeological potential within the Project Area, and the potential effects from the development to archaeological sites, known and unknown, Golder recommends the following:

- AIA prior to development proceeding in areas of archaeological potential; and,
- No further archaeological work in areas identified in this AOA as being of low archaeological potential.

7.1 Regulatory Process

Project planning is still in the pre-design phase. Once additional information on the specific location of the pipeline rights-of-way and construction techniques are developed, it has been recommended that an AIA be conducted in areas of archaeological potential or at the location of previously recorded archaeological sites where development may impact archaeological resources.



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The AIA would need to be conducted in accordance with Archaeology Branch Guidelines (Archaeology Branch 1998) by a qualified archaeologist under a Heritage Inspection Permit issued per Section 14 of the HCA. The objectives of the AIA would include the following: (1) identify, record, and assess archaeological sites located within the Project Area; (2) identify and evaluate possible impacts by the proposed development to these archaeological sites; and (3) recommend appropriate impact management actions.

All AIAs in British Columbia must be conducted under an HCA permit issued by the Archaeology Branch. The HCA permit provides professional archaeologists with the ability to conduct archaeological investigations, including AIA's and archaeological monitoring, anywhere in the prescribed boundaries outlined within the permit. The HCA permit will be issued by the Archaeology Branch after a 10 to 12 week review period, which includes a 30 day review period for First Nations identified by the Archaeology Branch as having Aboriginal interests in the Project Area. For a blanket Heritage Inspection Permit (see next paragraph), an amendment summarizing each proposed Project to be assessed under the permit must be provided to the Archaeology Branch and First Nations; the Archaeology Branch requires 30 days to process each amendment to allow for First Nations comment.

The scale of the AIA would be dependent upon a number of factors, including the construction methods, length and width of the right-of-way, access (i.e., the right-of-way is located under pavement), and depth of the soils and sediments. Archaeological monitoring would be dependent upon the schedule of the contractor and the proposed construction techniques.

If significant archaeological deposits are identified during the AIA that cannot be avoided by the development, and that would require significant investigative measures to mitigate, a separate Section 14 Heritage Investigation Permit may be required by the Archaeology Branch. Archaeological mitigation typically requires Systematic Data Recovery (SDR), including the hand excavation of Excavation Units that measure 50 cm x 50 cm or 1 m x 1 m to collect critical information on the nature of the archaeological deposits before they are damaged or destroyed. The scale of the archaeological investigations conducted under a Heritage Investigation Permit would be dependent upon the significance of the archaeological deposits. SDR can be time consuming and expensive, but cannot be accurately defined until the results of the AIA are available.

If an archaeological site is recorded during the AIA, an Alteration Permit issued per Section 12 of the HCA may be required prior to any development activities that might impact the archaeological site. The property owner would be a required signatory to this permit. The permit may carry conditions requiring concurrent archaeological work, such as data recovery, monitoring or post-construction inspection. The HCA permit will be issued by the Archaeology Branch after a 10 to 12 week review period, which includes a 30 day review period for First Nations identified by the Archaeology Branch as having Aboriginal interests in the Project Area. An Alteration Permit would be required at the conclusion of the construction. The scale of the effort to complete work under an Alteration Permit cannot be accurately defined until the results of the AIA are available.

The AIA should include a provision for engagement with appropriate First Nations, including the Songhees Nation. Consistent with *British Columbia Archaeological Impact Assessment Guidelines*, standard industry practice, and the bylaws of the British Columbia Association of Professional Archaeologists (BCAPA), First Nations identified by the Archaeology Branch as having Aboriginal interests in the Project should be notified of the project. In addition, it should be requested that they share any archaeological concerns they may be aware of in the Project area, and invited to provide a representative of the community to participate in the field work. It is also recommended that procedures be developed in advance of archaeological fieldwork and construction for



the respectful treatment and reburial of any ancestral remains that may be observed that are consistent with Archaeology Branch guidelines (Appendix A). By engaging early in the planning process with First Nations and the Archaeology Branch, unexpected delays to the Project schedule from the discovery of culturally significant ancestral remains can be mitigated.

Low potential does not mean any potential; even the most thorough investigation may not identify all archaeological materials that may be present. Should field observations, consultation with local First Nations or other information sources indicate the potential for archaeological sites to be present, an archaeologist should be engaged to evaluate this information and determine appropriate actions. In addition, Golder recommends that Oak Bay develop and implement a Chance Find Recovery Procedure for low potential areas that are not assessed in the AIA.

8.0 LIMITATIONS AND USE OF REPORT

This report was prepared for the exclusive use of McElhanney, the District of Oak Bay and the Archaeology Branch. Any use, reliance or decisions made by third parties on the basis of the report are the sole responsibility of such third parties.

9.0 CLOSURE

We trust that the information contained in this report is sufficient for your present needs. Should you have any questions regarding the project, please do not hesitate to contact the undersigned.

GOLDER ASSOCIATES LTD.

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BH/KB/lih

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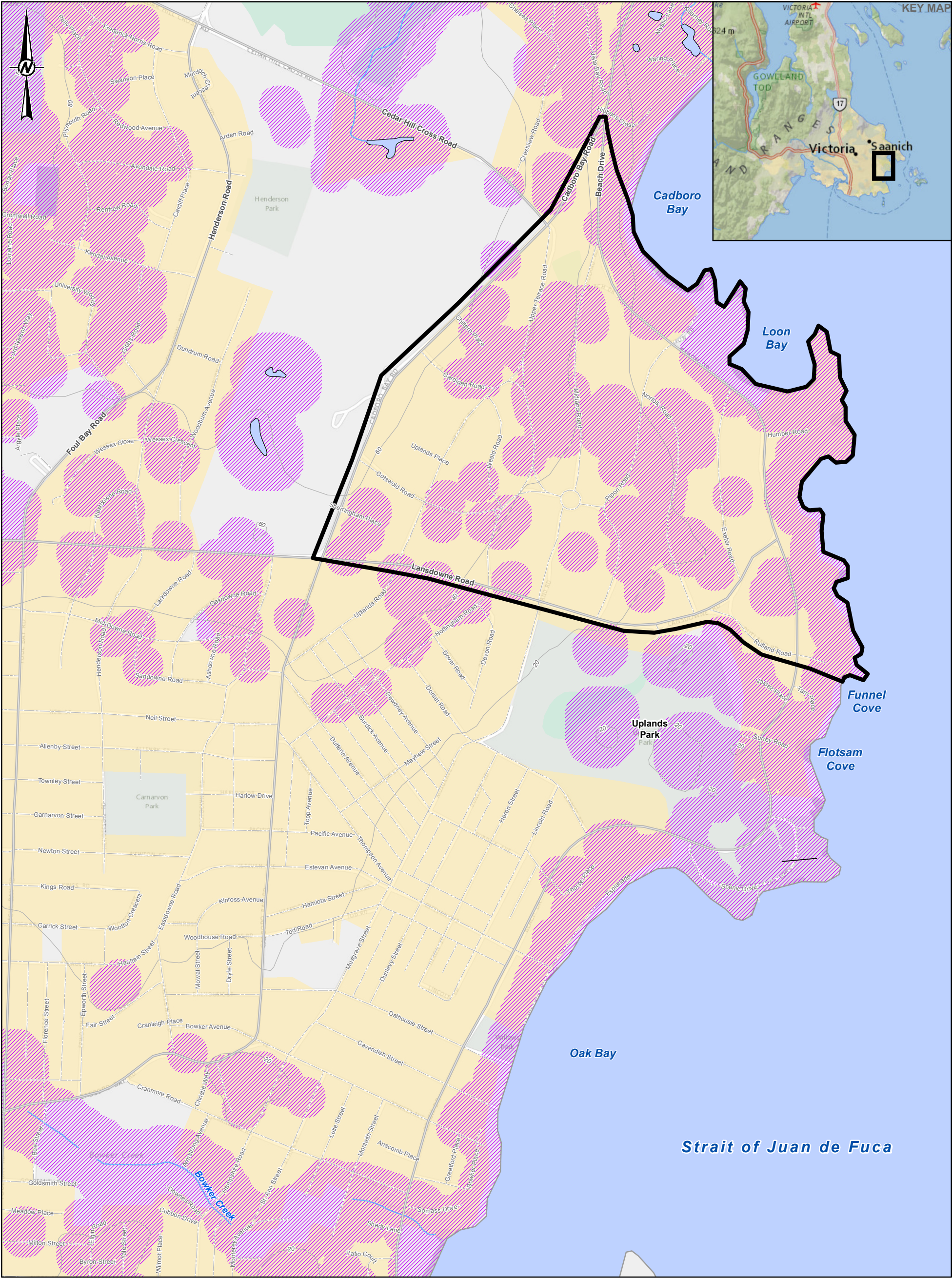
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LEGEND

PROJECT AREA

ARCHAEOLOGICAL POTENTIAL

RESIDENTIAL AREA

WOODED AREA

WATERBODY

WATERCOURSE

HIGHWAY

MAJOR ROAD

LOCAL ROAD

CONTOUR (20m)

REFERENCES

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PROJECT
UPLANDS COMBINED SEWER SEPARATION
PROJECT REDESIGN, OAK BAY, B.C.

TITLE
ARCHAEOLOGICAL OVERVIEW ASSESSMENT

CONSULTANT	YYYY-MM-DD	2015-10-09
	DESIGNED	BH
	PREPARED	DL
	REVIEWED	
	APPROVED	

PROJECT NO. 1528756	CONTROL	REV. 0	FIGURE 1
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APPENDIX A

Archaeology Branch Found Human Remains Policy



Found Human Remains

Issued: September 22, 1999

PURPOSE:

The purpose of this directive on found human remains is to provide guidelines to Archaeology Branch staff, archaeologists, other agencies and the public as to branch procedures for handling human remains that may be protected under the *Heritage Conservation Act* (1996, RSBC, Chap. 187), and to facilitate the respectful treatment of these remains.

MANDATE:

Pursuant to section 13(2)(b) of the *Heritage Conservation Act* (HCA), a permit is required under section 12 or 14 before a person can undertake any actions affecting a burial place of historical or archaeological value, human remains or associated heritage objects.

AUTHORITY:

The Director of the Archaeology Branch and the Manager, Permitting and Assessment Section, have been authorized to exercise the powers of the Minister to issue permits under sections 12(2) and 14(2), as well as ministerial orders under section 14(4) where necessary for emergency conservation purposes.

POLICY STATEMENT:

Upon notification of the discovery of human remains that are not of forensic concern, the Archaeology Branch will take steps to facilitate the respectful handling and disposition of those remains within the limits of existing funds and program priorities.

PROCEDURES:

The following procedures will normally apply in cases where human remains are discovered fortuitously through various land altering activities such as house renovations, road construction or natural erosion; or during archaeological studies conducted under an *HCA* permit:

1.) Fortuitous Discoveries

In cases where the branch has been notified that human remains have been discovered by chance, the following procedures should normally apply:

- the Coroner's Office and local policing authority should be notified as soon as possible;



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Archaeology Branch Found Human Remains Policy

- the Coroner's Office should determine whether the matter is of contemporary forensic concern. The branch may provide information and advice that may assist in this determination;
- if the Coroner's Office determines the reported remains are not of forensic concern, the branch will attempt to facilitate disposition of the remains;
- if a cultural affiliation for the remains can be reasonably determined, the branch will attempt to contact an organization representing that cultural group;
- if remains are determined to be of aboriginal ancestry, the branch will attempt to contact the relevant First Nation(s);
- generally, if remains are still interred and are under no immediate threat of further disturbance, they will not be excavated or removed;
- if the remains have been partially or completely removed, the branch will facilitate disposition;
- if removal of the remains is determined to be appropriate, they will be removed under authority of a permit issued pursuant to section 12 or 14, or an order under section 14 of the *HCA*, respecting the expressed wishes of the cultural group(s) represented to the extent this may be known or feasible;
- if circumstances warrant, the branch may arrange for a qualified physical anthropologist or an archaeologist with training in human osteology to provide an assessment of the reported remains in order to implement appropriate conservation measures; and
- analysis should be limited to basic recording and in-field observations until consultation between the branch and appropriate cultural group(s) has been concluded.

2.) Permitted Archaeological Projects

In cases where human remains are encountered in the course of a permitted project, the Archaeology Branch should be contacted as soon as possible.

- the remains are to be handled in accordance with the methods specified in the permit, respecting the expressed wishes of the cultural group(s) represented, to the extent that these may be known or feasible;
- if the permit does not specify how remains are to be handled and if the cultural affiliation of the remains can be reasonably determined, the field director or permit-holder should attempt to contact an organization representing that group. The permit-holder or field director should advise the branch of the organization contacted, and any wishes expressed by that organization;
- the branch, in consultation with the appropriate cultural group(s), will determine disposition of the remains;
- analysis should be limited to basic recording and in-field observations, until consultation between the branch and appropriate cultural group(s) has been concluded.

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