



shíshálh
NATION

Minute of Decision

Date: May 17, 2023

FILE NO: SNR22276.01

Re: Amending the shíshálh Nation Heritage Policy to append the Policy and Procedures for Use of Hydro and Pneumatic Excavation Tools during Archaeological Investigation

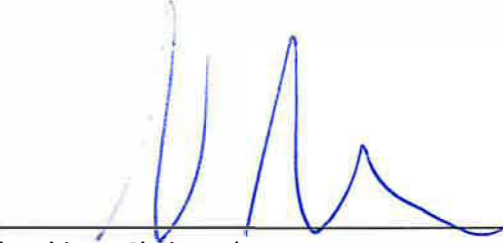
IT IS HEARBY RESOLVED BY COUNCIL THAT:

shíshálh Nation Council, on behalf of the shíshálh Nation, endorses and approves the "Policy and Procedures for Use of Hydro and Pneumatic Excavation Tools during Archaeological Investigation" as an appendix to the *k'ulhutsut ?elh kwiyas (shíshálh Nation Heritage Policy)*.

APPROVED BY:

shíshálh Nation Council


hewhiwus Lenora Joe


hewhiwus Shain Jackson


hewhiwus Raquel Joe


hewhiwus Rochelle Jones


hewhiwus Philip Paul

SHÍSHÁLH NATION

5555 Sunshine Coast Hwy

PO Box 740

Sechelt, BC V0N 3A0

T 604-885-2273

F 604-885-3490

E info@shishalh.com

www.shishalh.com

Policy and Procedures for Use of Hydro and Pneumatic Excavation Tools during Archaeological Investigation

PURPOSE

To guide the use of hydro and pneumatic excavation tools during archaeological investigations within the shíshálh swiya and ensure appropriate management of shíshálh Heritage Properties.

SCOPE

All ground-disturbing archaeological investigations within the shíshálh swiya conducted under the authority of a BC *Heritage Conservation Act* permit and/or a shíshálh Nation Heritage Investigation Permit.

BACKGROUND

Hydro and pneumatic excavation methods are commonly employed to provide safe working conditions when working in proximity to subsurface utilities. Both methods are precise and efficient when compared to traditional hand or machine excavation, especially when working in areas with limited workspace, compact soils, or wet or frozen ground.

From an archaeological perspective, both methods have the potential to damage shíshálh Heritage Properties if employed without due care. Hydro excavation, in particular, carries significant risk of causing damage to the archaeological record compared to traditional hand excavation. Its use can obscure archaeological materials and render it difficult or impossible to inspect sediments. However, pneumatic excavation has demonstrated no greater risk of artifact damage in comparison to traditional hand excavation when carefully employed under the supervision of an archaeologist familiar with its use.

DEFINITIONS

“Archaeologically sensitive area” means an area within or in proximity to a registered archaeological site, within or in proximity to a location known to shíshálh as culturally significant, or within an area of raised archaeological potential (e.g., a near a creek or along a marine or lake shoreline).

“Emergency work” means any work completed to mitigate imminent risk of injury or death; or, to mitigate imminent risk of loss or damage to public property or infrastructure.

“Hand excavation” means the removal of sediment using hand tools such as shovels or trowels.

“Hydro excavation” means the use of high-pressure water to loosen and remove sediment, while simultaneously using a vacuum to suction excavated material into a holding tank.

“Operator” means the person who operates the pneumatic excavation devise or tool.

“**Permit Holder**” means the person to whom a valid *shishálh Nation Heritage Inspection Permit (sHIP)* has been issued.

“**Pneumatic excavation**” means the use of compressed air power tools such as AirSpade or AirVac technology to loosen and remove sediment.

“**sHIP**” means a shishálh Nation Heritage Investigation Permit as per the *shishálh Nation Heritage Policy*.

“**shishálh swiya**” means the lands, birthplace, or “territory” of the shishálh Nation.

POLICY STATEMENTS

1. Criteria for Approving Use

- 1.1.** Use of hydro or pneumatic excavation tools shall only be undertaken with the direct written approval of the shishálh Nation Rights and Title Department or during emergency work.
- 1.2.** Where there is potential for encountering archaeological materials or deposits, hand excavation is preferred. Safety or other considerations when working around subsurface utilities, or in areas where there is limited workspace, may necessitate the use of hydro or pneumatic excavation tools.
- 1.3.** Use of hydro or pneumatic excavation tools must be conducted under the direction of a Permit Holder familiar with their use in archaeologically sensitive areas.
- 1.4.** Use of hydro or pneumatic excavation tools should be restricted to areas of previous disturbance that lack sensitive archaeological properties such as fauna, midden, ancestral remains, etc.

2. Procedure for Use

2.1. Excavation Methods

Upon removal of the uppermost layer (i.e., sod, asphalt, concrete, etc.), excavation shall be conducted using the following archaeological methods:

- 2.1.1.** Where vacuums are used, the holding tank shall be clean and empty at the start of the excavation to mitigate inadvertent mixing of cultural and noncultural deposits. The archaeologist may request that the holding tank is emptied periodically during excavation to separate stratigraphic layers for later inspection.
- 2.1.2.** The operator shall dig at a rate deemed appropriate by the archaeologist and allow for frequent examination of exposed soil profiles to ensure that excavation is not adversely impacting archaeological sediments or materials.

- 2.1.3.** Where hydro excavation is employed, water pressure from the lance should be set to low (the force of tap water) and may be increased at the discretion of the Permit Holder depending on the nature of the material being removed and potential for encountering archaeological materials or deposits.
- 2.1.4.** Where hydro excavation is employed, one corner of the excavation may be taken down first to allow the water to pool in one area (sump) to allow for examination of exposed soil profiles. The water in the sump area will be removed with the vacuum hose and the level of suction will be determined by the Permit Holder.
- 2.1.5.** Where there is potential for encountering archaeological materials or deposits, hydro and pneumatic excavation shall occur in discrete layers through the regulation of air or water pressure and level of vacuum suction. Layer thickness will be determined by the Permit Holder based on in-field observations.
- 2.1.6.** Where there is potential for encountering archaeological materials or deposits, a soil probe, shovel, or trowel may be used at the discretion of the Permit Holder to help determine the nature of subsurface deposits and inform hydro or pneumatic excavation methods (i.e., level air or water pressure and level of vacuum hose suction).
- 2.1.7.** At the discretion of the archaeologist, hydro or pneumatic excavation may temporarily cease to allow for removal of columns or samples to be hand screened or sorted. The dimensions of the columns or volume of the samples will be determined by the Permit Holder based on in-field observations but will not be less than 1 L or 10 cm³.
- 2.1.8.** Where archaeological materials or deposits are encountered, and if deemed safe for the crew to proceed with hand excavation, hydro or pneumatic excavation shall cease and hand excavation shall continue either administered by the archaeological crew or at the direction of the archaeological crew.

2.2. Establishing a Temporary Repository

In the event that excavated sediments cannot be stored on site, a temporary repository shall be established within the shishálh swiya to store sediments that have not yet been confirmed as negative for archaeological materials as follows:

- 2.2.1.** The transfer of sediments to the temporary repository shall be supervised by the Permit Holder from point of origin to completion to ensure the exact location is known.
- 2.2.2.** The Permit Holder will ensure the sediment is covered and protected from wind and rain as needed.
- 2.2.3.** The temporary repository shall be accessible to the archaeological crew to facilitate the processing of material as needed.

- 2.2.4. The temporary repository area shall be protected from public interference to ensure no archaeological artifacts are illegally removed from sediment.
- 2.2.5. The Permit Holder shall notify the Rights and Title Department of the temporary repository location and approximate volume of sediment stockpiled within 24 hours of establishment and provide an expected timeline for processing.

3. Violations

Any violation of this policy may result in disciplinary action up to and including suspension or termination of the Permit Holder’s current and future eligibility to hold a sHIP.

REFERENCES

Powell, B.B.
1962 Problems of Urban Archaeology. American Antiquity 27(4) 580-583.

Settle, K.
2019 Vacuum Truck Excavation as a New and Effective Tech. Unpublished M.A. Thesis, Department of Archaeology, Simon Fraser University, Burnaby.

APPROVAL AND REVIEW HISTORY

Version 1 approved by:	Divisional Manager, STLM	2023-05-09
	Chief and Council	2023-05-17