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SOCIETY OF CONTAMINATED SITES
APPROVED PROFESSIONALS
OF BRITISH COLUMBIA

Fall Professional Development Workshop

November 5, 2026

This meeting is being conducted from the traditional, ancestral, and unceded territory of the Coast Salish peoples, including Squamish, Tsleil-Waututh, Musqueam



Introduction

- Erin Robson, P.Eng., Chair, CSAP Professional Development Committee

Land Acknowledgement

- This workshop is being conducted from the traditional, ancestral, and unceded territory of the Coast Salish peoples, including Squamish, Tsleil-Waututh, Musqueam

Professional Development Committee

- Erin Robson, Chair
- Tadd Berger, Member
- Tony Gillett, Member
- Blair King, Member
- Michelle Morrow, Member
- Audrey Wagenaar, Member

Housekeeping

- Participants must attend the full duration of the PD workshop to receive the full 6 PD hours credit. Those who are absent for a significant portion of the session due to calls or meetings will not be eligible for the full credit.
- If you would like to ask a question, please use the microphones.
- The event is not recorded but presentation slides will be posted on CSAP Website and Members' Portal after.
- Stay tuned for the post-event survey via email!
- CSAP staff will be going around and taking photos!
- **Wifi Network:** CSAPSocietyEvent 26
- **Password:** PDworkshop2026

Today's Program

- CSAP Fall PD workshop at 9:00 a.m.
- Lunch Break at 11:45 a.m. – 12:55 p.m.
- Afternoon Break at 2:30 p.m. – 2:45 p.m.
- Meeting adjourns at 4:00 p.m.
- Happy hour to follow in the foyer until 6:30 p.m.

Sessions will resume immediately after breaks. Please return on time.

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President's Update

This meeting is being conducted from the traditional, ancestral, and unceded territory of the Coast Salish peoples, including Squamish, Tsleil-Waututh, Musqueam



Tara Siemens Kennedy, MET, P.Chem

President, CSAP Board of Directors

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Advancing Reconciliation – Lessons Learned from YVR's North Runway Modernization Program

This meeting is being conducted from the traditional, ancestral, and unceded territory of the Coast Salish peoples, including Squamish, Tsleil-Waututh, Musqueam



Wendy Avis

Director of Climate and Environment,
Vancouver Airport Authority

Advancing Reconciliation –

Lessons Learned from YVR's North Runway Modernization Program



Wendy Avis – Director, Climate & Environment



01 YVR Strategic Context

02 Sustainability & Friendship Agreement

03 North Runway Modernization Program

04 Advancing Reconciliation

05 Questions & Discussion

North Runway Video Series – Episode 4 - Musqueam



01

Strategic Context

2025 Highlights

Record passengers
26.9 million

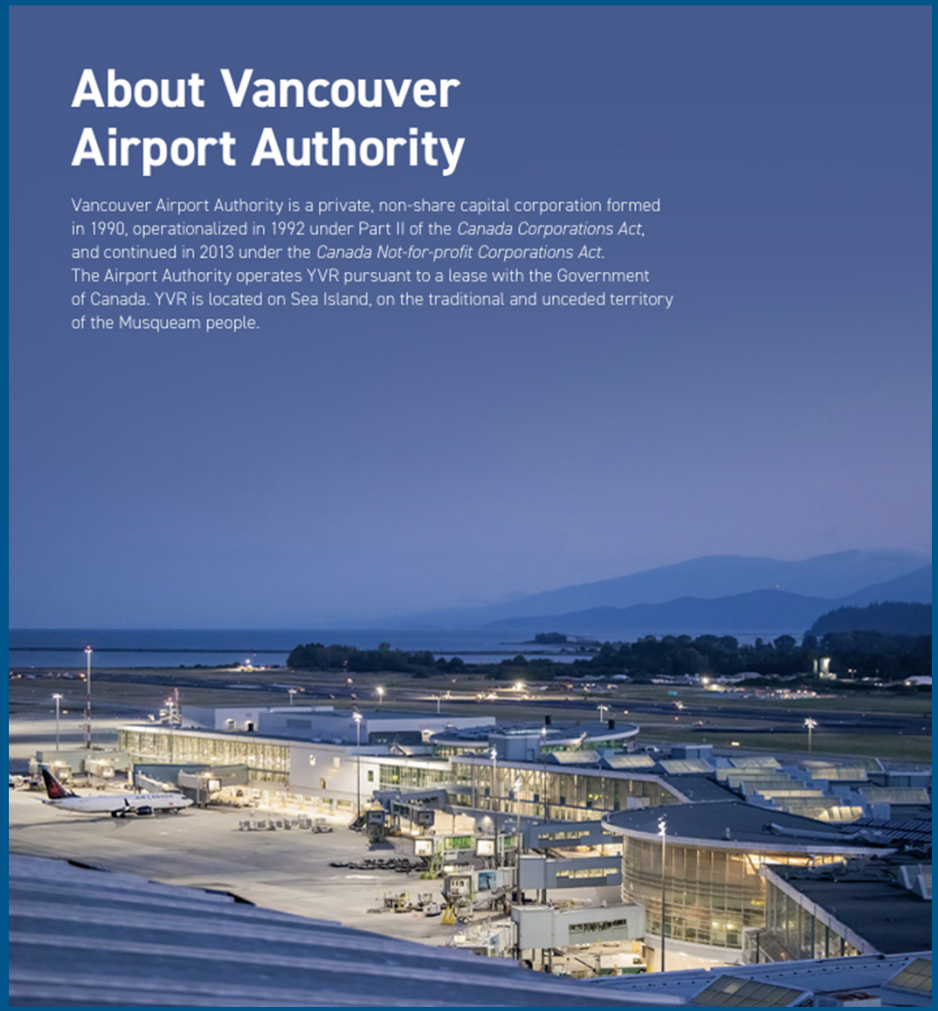
Economic contribution
More than **$15B** to Canada's GDP

Connectivity
57 airlines served
129 destinations

Record cargo volumes
364,742 tonnes

About Vancouver Airport Authority

Vancouver Airport Authority is a private, non-share capital corporation formed in 1990, operationalized in 1992 under Part II of the *Canada Corporations Act*, and continued in 2013 under the *Canada Not-for-profit Corporations Act*. The Airport Authority operates YVR pursuant to a lease with the Government of Canada. YVR is located on Sea Island, on the traditional and unceded territory of the Musqueam people.



2025 to 2027 Strategy



02

Sustainability & Friendship Agreement

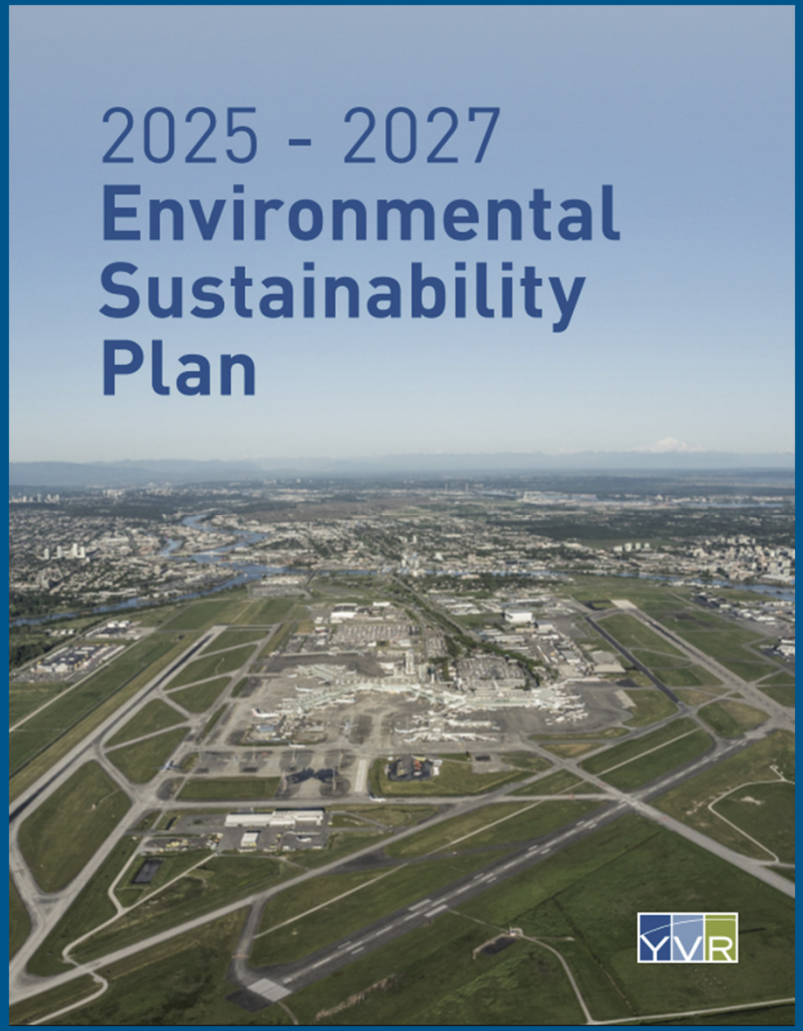
Musqueam – YVR Sustainability & Friendship Agreement

- ✓ Education to employment pathways
- ✓ Revenue sharing agreement
- ✓ Protect the land and waters in and around Sea Island
- ✓ Continuous building of a positive and mutually beneficial relationship



YVR sits on the traditional, ancestral and unceded territory of the Musqueam people.


ARCHAEOLOGY & HERITAGE | VISION
Recognize the heritage values of Sea Island and realize the Musqueam Indian Band – YVR Airport Sustainability and Friendship Agreement by honouring Musqueam's cultural heritage and ancestral lands by preserving sacred sites and personal connections to the land for future generations.


2025 - 2027
Environmental Sustainability Plan
YVR

03

North Runway Modernization



North Runway Modernization Project

Built in the 1990s, YVR's North Runway required upgrades to ensure the longevity and resilience of this critical piece of airport infrastructure.

The North Runway Program included:

- A complete asphalt overlay of the runway and connecting taxiways
- Drainage improvements
- Electrical improvements
- New LED lighting along the runway edge

North Runway

PROGRAM BY THE NUMBERS



9,941
feet
Length of YVR's North Runway.



210
millimetres
nominal depth of asphalt overlay on runway surface.



369
daily flights
departing and arriving on the North Runway during peak season.



8
hour increments
of construction work took place overnight, between 10 p.m. and 6:00 a.m., during the runway's standard closure period.



1,600
LED lights
modified during construction to match new runway height, of which 102 halogen bulbs were replaced with high efficiency lights, ensuring all North Runway lighting is LED.



130K+
total work hours
performed safely with no lost-time incidents.



120K
square meters
of topsoil placed around the runway perimeter, seeded with vegetation that is indigenous to the area.

North Runway Modernization Project



ASPHALT

Laid more than 154,000 tonnes of asphalt over the entire runway surface and connecting taxiways to improve resilience.

LIGHTING

Replaced all remaining halogen bulbs replaced with high efficiency lights to ensure all North Runway lighting is LED.

ELECTRICAL

Raised all runway lights to newly paved runway surface height.

DRAINAGE

Upgraded and replaced elements of the runway drainage systems to improve water removal from the runway surface.

REVEGETATION

Placed and seeded more than 120,000 square metres of topsoil around the runway perimeter.

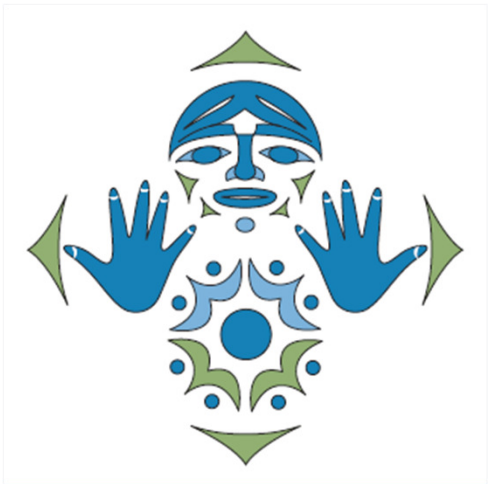
04

Reconciliation

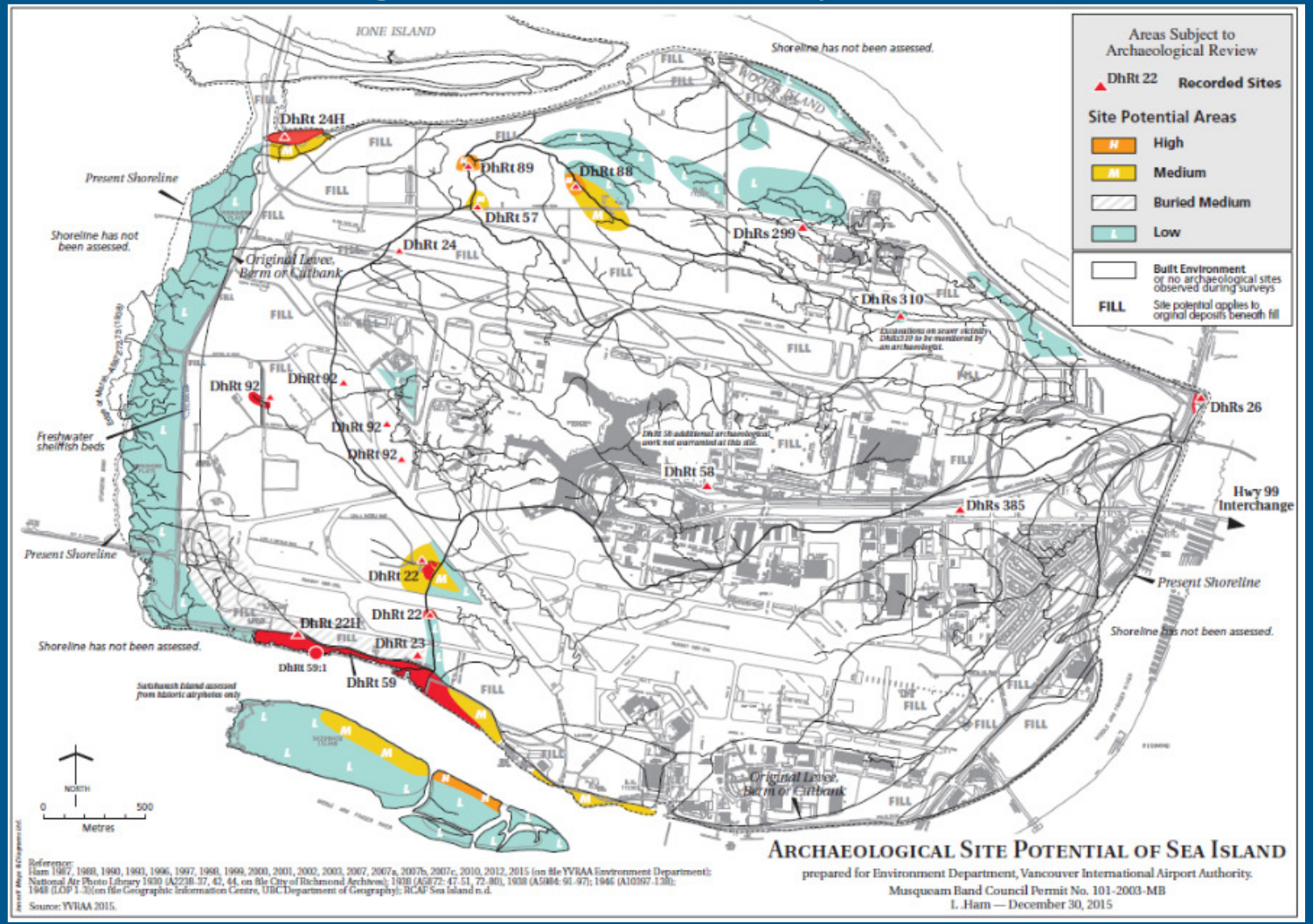
The opportunity for reconciliation

- ✓ Do things differently than in 1990s
- ✓ Cultural Awareness
- ✓ Archaeological Assessment and Procedures
- ✓ Contracting and Economic Opportunities

YVR Airport Sustainability and Friendship Agreement honors Musqueam's cultural heritage and ancestral lands by preserving sacred sites and personal connections to the land for future generations

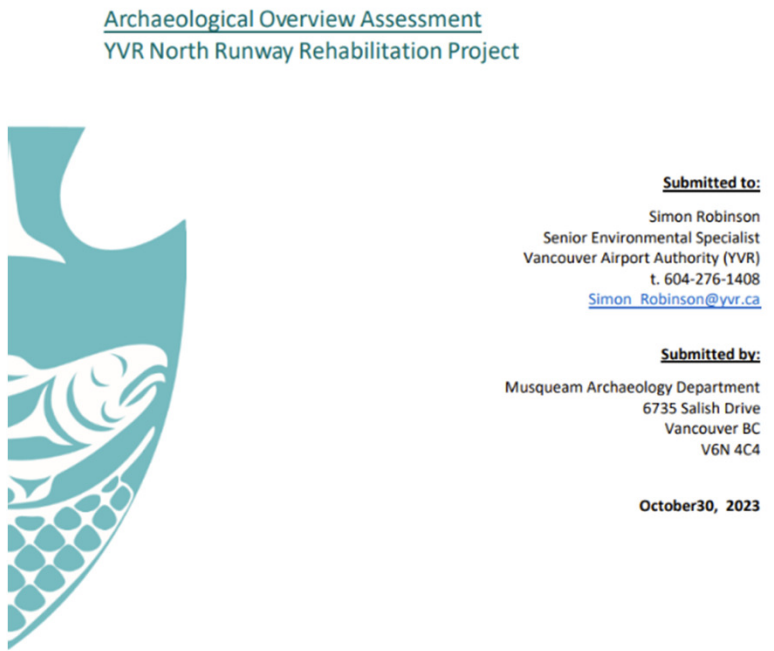


2015 Archaeological Potential Map



The opportunity for reconciliation

- ✓ Musqueam Archaeological Department produced an AOA for the project
- ✓ Contained 10 recommendations related to cultural and archaeological considerations
- ✓ YVR committed to all 10 recommendations for this project and all projects going forward
- ✓ YVR and Musqueam have developed an Archaeological Chance Find Procedures which outline what to do in the event of an archaeological find; available to all employees and contractors



Archaeological Overview Assessment
YVR North Runway Rehabilitation Project

Submitted to:

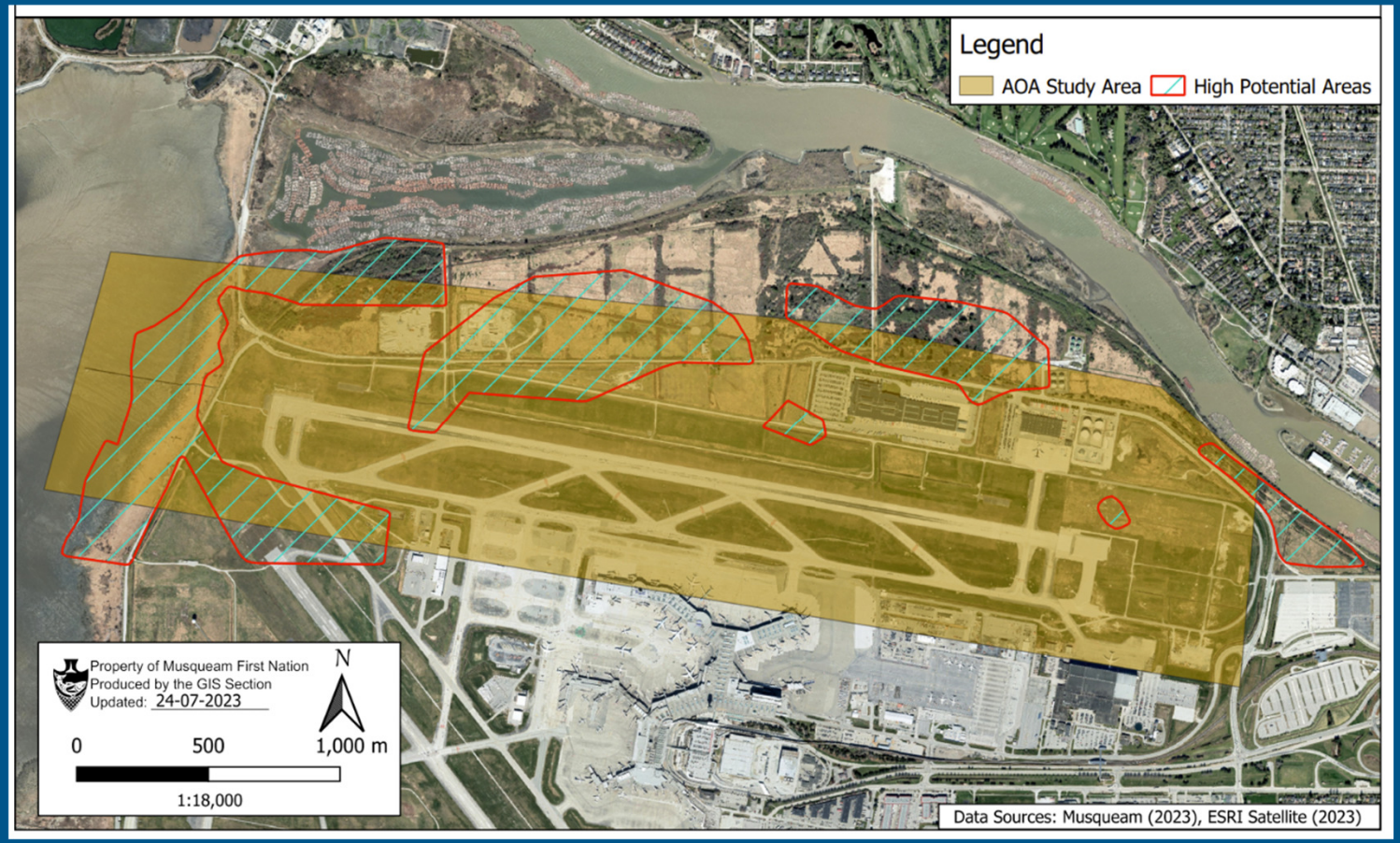
Simon Robinson
Senior Environmental Specialist
Vancouver Airport Authority (YVR)
t. 604-276-1408
Simon_Robinson@yvr.ca

Submitted by:

Musqueam Archaeology Department
6735 Salish Drive
Vancouver BC
V6N 4C4

October30, 2023

2023 Areas of High Archaeological Potential



ʔaːː siːẏéḿ tə siyeẏeʔ ct ʔiʔ tə ńaːɬtən ʔiməxneʔtən, hay ceːp q̓ə tə ɬwələp k̓ʷəθ xʷʔəḿi. ɬwələp yəxʷ ceʔ xʷəxʷəẏəneʔ. xʷəńiwən ceːp ʔə tə sʔaːnɬ šxʷaḿət ʔə ƛ̓ ċəsnaʔəm, xʷəńiwən ƛ̓eʔ ʔə tə šxʷməθkʷəẏəmaʔɬ təməxʷ, snəẃeyəɬ, syəθəs ʔiʔ tə shəńq̓əmińəḿqən

---

Our respected friends relations and visitors, thank you all for coming. You will honour us by becoming witnesses. Commit our ancestral village of ċəsnaʔəm to your hearts and minds Commit also to your hearts and minds the land, traditional teachings, history, and language of the Musqueam people.

Bien chers amis, proches, parents et visiteurs, merci à tous d'être venus. Vous nous honorez en acceptant de devenir témoins. Faites une place dans vos cœurs et dans vos esprits à notre village ancestral de ċəsnaʔəm. Faites une place dans vos cœurs et dans vos esprits à la terre, aux enseignemen s traditionnels à l histoire et à la langue des Musqueam.

05

Discussion & Questions

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Navigating Professional Practice in Contaminated Sites – Part 1

This meeting is being conducted from the traditional, ancestral, and unceded territory of the Coast Salish peoples, including Squamish, Tsleil-Waututh, Musqueam



Tony Gillett, P.Eng.

CSAP Professional Development Committee

Agenda

Part 1:

- Objectives
- Introductions
- Professional Governance Act Overview
- Perspectives from Regulatory Bodies (Parent Organizations)

Part 2

- Panel Discussion

Why Are We Here?

- Outline the relationship – OSPG, Regulatory Bodies, CSAP and Registrants
- Insights on key topics:
  - Multidisciplinary professional practice
  - Reserved and regulated practice
  - Duty to report
  - Practice guidance
  - Professional reliance

Joining Us Today



Kerry Taylor, CPA, CA
Superintendent of the Office of Professional Governance



Elaine Vale, JD
Registrar,
College of Applied Biologists



Jennifer Lawrence, MAL
CEO & Registrar,
BC Institute of Agrology



Leane Holloway, M.Sc. G.I.T.
Practice Advisor,
Engineers and Geoscientists BC

Professional Governance Act

Contaminated Sites Approved Professionals

November 5, 2026

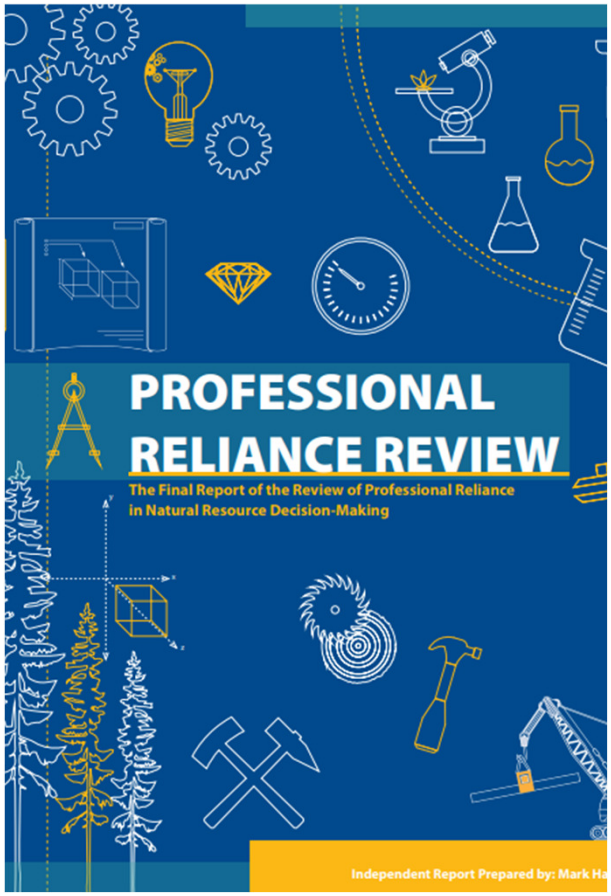
OSPG | Office of the Superintendent of Professional Governance

Presentation contents

- Purpose of the *Professional Governance Act* (PGA)
- Key Aspects of the PGA
- Regulated and reserved practice
- Duty to report overview

OSPG

Reasons for creating the PGA



- Professional governance goals
  - Standard governance framework for key self-regulating professions
  - Consistent professional standards, oversight and discipline requirements
  - Provincial oversight of how the regulatory bodies are functioning
  - Improve public trust

OSPG

Key Aspects of the PGA

Regulators

Board composition: merit-based elections and lay members

Board authority: boards make bylaws (no registrant approval)

Board performance: higher expectations, including meeting OSPG Standards of Good Regulation

Registrants

Practice: reserved practice for some professions that did not previously have it

Ethics: code of ethics; duty to report

Accountability: mandatory CPD; audit and practice reviews; investigations and discipline processes; engineering firm registration

Relationships

With Province: focused provincial oversight

Across regulators: collaboration expected and required

With the public: accessibility and transparency in upholding the public interest

OSPG

Regulated practice

Body of knowledge or list of disciplines a profession is based upon

Defined in regulation for **each** PGA regulator

Reserved practice

Requires the **experience** or **technical knowledge** of a registrant having regard to the **protective purposes**

Protective purpose means the safety, health and welfare of the public, including the protection of the environment and the promotion of health and safety in the workplace

Established: Architecture, Engineering, Geoscience, Forestry, Agrology, Applied Biology
Under consideration: Applied Science Technology*

*Current status as of 2025/26: consultation and policy work to develop a regulation underway

OSPG

PGA sections 54 and 55

Section 54 Prohibitions regarding reserved practice

Sets out who can perform work that has been reserved for regulated professionals.

Section 55 Exceptions to prohibitions

“Despite section 54, nothing in this Act, the regulations or the bylaws prohibits a person from practising a profession, discipline or other occupation in accordance with this Act, regulations made under this Act or another enactment.”

OSPG

Resources

OSPG Guidance: Regulated and Reserved Practice

https://professionalgovernancebc.ca/app/uploads/sites/498/2023/07/Regulated-and-Reserved-Practice-Web-1.2-20230728-.pdf

Descriptive materials

Plain language descriptions of each regulatory body's regulated and (if applicable) reserved practice. Found on regulatory body websites

Regulatory body advice

Regulatory bodies may answer questions about practice matters, including when hiring a registered professional may be required

OSPG

Duty to Report

Statutory duty to report

- Obligation applies to PGA registrants
- Applies if you have reasonable and probable grounds to believe an identified registrant's is engaged in the regulated practice in a way that may pose risk of significant harm to environment, health or safety
- Other complaints, discipline and reporting processes do not override the PGA duty to report
- **Learn more:** https://professionalgovernancebc.ca/duty-to-report-to-regulatory-bodies/

OSPG

Where Does CSAP Fit In?

- OSPG regulates and oversees professional Regulatory Bodies under the PGA;
- CSAP is an independent society operating within the contaminated sites regulatory regime (i.e., EMA, CSR, etc.);
- CSAP members are regulated by their respective Regulatory Bodies, many of which are overseen by OSPG (except for P.Chem's);
- CSAP's role is to provide additional oversight, credentialing, and quality assurance specific to the Approved Professional designation under EMA.

APs and QPs

- Issues of reserved and regulated practice directly apply to QPs in the work they do:
  - Knowledge and expertise in subject matter
  - Stay within our competence and authority – involve other professionals as appropriate
- A Protocol 6 review by and AP is a Quality Assurance review:
  - Confirms regulatory process is followed
  - No modification to conclusions
  - Not reserved practice
  - Professional ethical considerations (e.g., duty to report) still relevant

Regulatory Body Insights: Question #1

- What are practice areas within each Regulatory Body that are typically applicable to contaminated sites management?

Regulatory Body Insights: Question #2

- How are registrants expected to approach their professional obligations in delivering multidisciplinary contaminated sites services?

Parent Organization Insights: Question #3

- What are the expectations for registrants when it comes to reporting potentially incompetent or unethical practice?

Morning Break

We will reconvene at 10:55 a.m.



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Navigating Professional Practice in Contaminated Sites – Part 2

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Joining Us Today



Kerry Taylor, CPA, CA
Superintendent of the Office of Professional Governance



Elaine Vale, JD
Registrar,
College of Applied Biologists



Jennifer Lawrence, MAL
CEO & Registrar,
BC Institute of Agrology



Leane Holloway, M.Sc. G.I.T.
Practice Advisor,
Engineers and Geoscientists BC

Panel Discussion: Topic #1

- What should registrants consider when making use of existing guidance and tools provided by ENV and CSAP, particularly in regard to practicing within their competency, as well as considerations of regulated and reserved practice?

Panel Discussion: Topic #2

- If a professional (QP or AP) appropriately relies on work prepared by another qualified professional, and a significant error is later discovered in that underlying work, how do the regulatory bodies view responsibility and accountability for the final conclusions?

Panel Discussion: Topic #3

- To what extent do the various Regulatory Bodies under the PGA work together and with the OSPG when developing standards and guidance to ensure that the expectations across regulators are comparable for similar types of work (such as the multidisciplinary field of contaminated sites management)?

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THANK YOU

Lunch Break

We will reconvene at 12:55 p.m.



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PAC Lessons Learned

This meeting is being conducted from the traditional, ancestral, and unceded territory of the Coast Salish peoples, including Squamish, Tsleil-Waututh, Musqueam



Jason Christensen, P.Eng.

Chair, CSAP Performance Assessment Committee

Mixed Use Property



- Two zones on the property: Residential and Commercial
- APECs included marine repair shop, boat and vehicle storage area, mobile home heating oil tanks, stockpile of soil from previous remediation.
- Site overlies drinking water aquifer, and portion of the site has sodium greater than 200 mg/L, thus DW exemption for a portion of the site, with DW applying to remainder of Site.

Lessons Learned #1



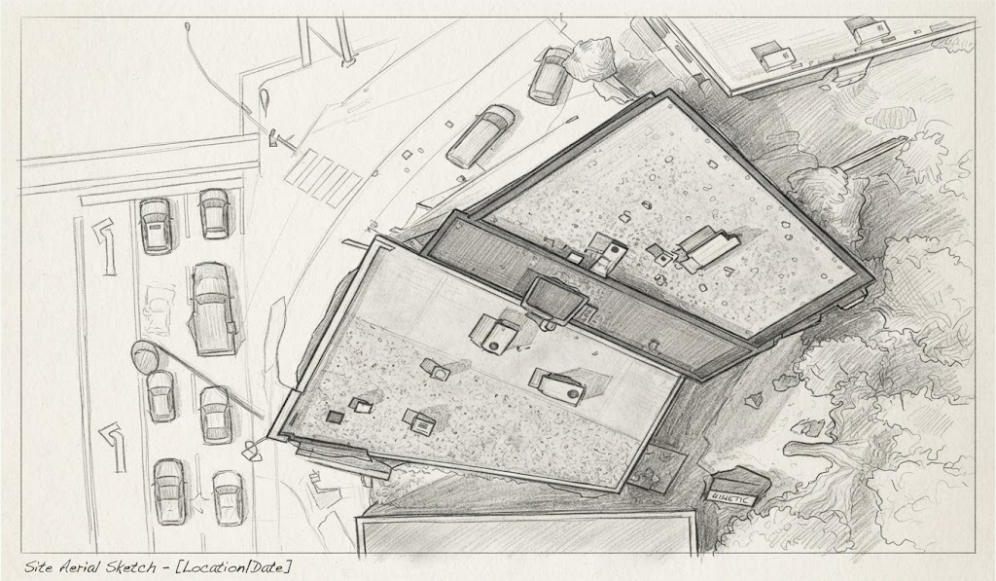
- PAP member asked if fuel VOCs were completed for heating oil tanks and AP provided rationale why fuel related VOCs would not be applicable for this heating oil.
- Procedural comment of retaining APECs and presenting in SoSC even when data shows it is not contaminated.
- The concentration summary presented LEPHs greater than P11 but the SRC indicated no upper cap concentrations. Be sure to include upper cap concentrations and use Exposure pathway questionnaire to show not high risk.

SLRA with Wide Area Fill



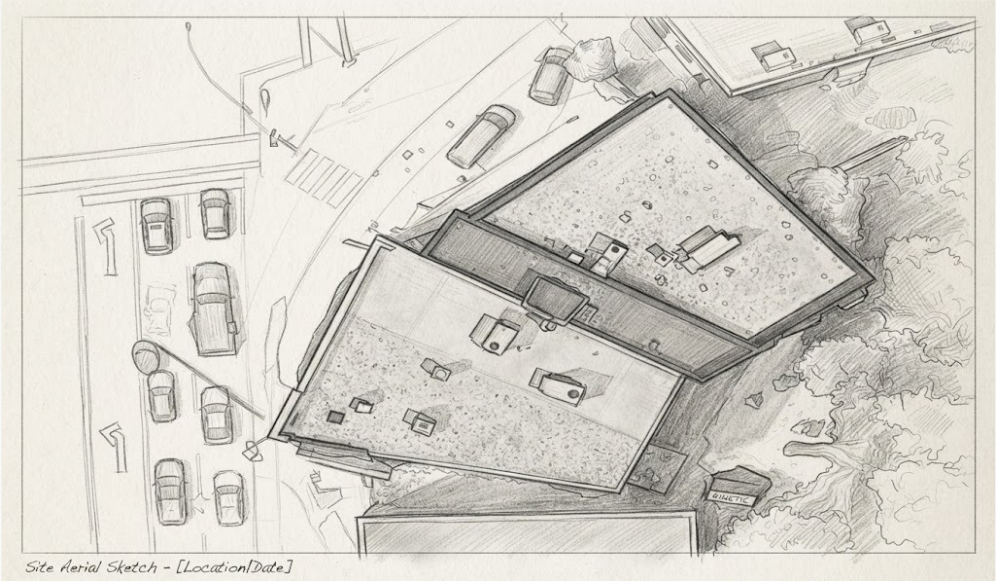
- Limited access site with existing building on site occupying entire parcel
- Bedrock outcrop upgradient
- Soil remediation occurred during development in 2004 but confirmatory samples not collected
- Recent samples primarily collected at downgradient end of the property
- Adjacent site identified as wide area property

Lessons Learned #2



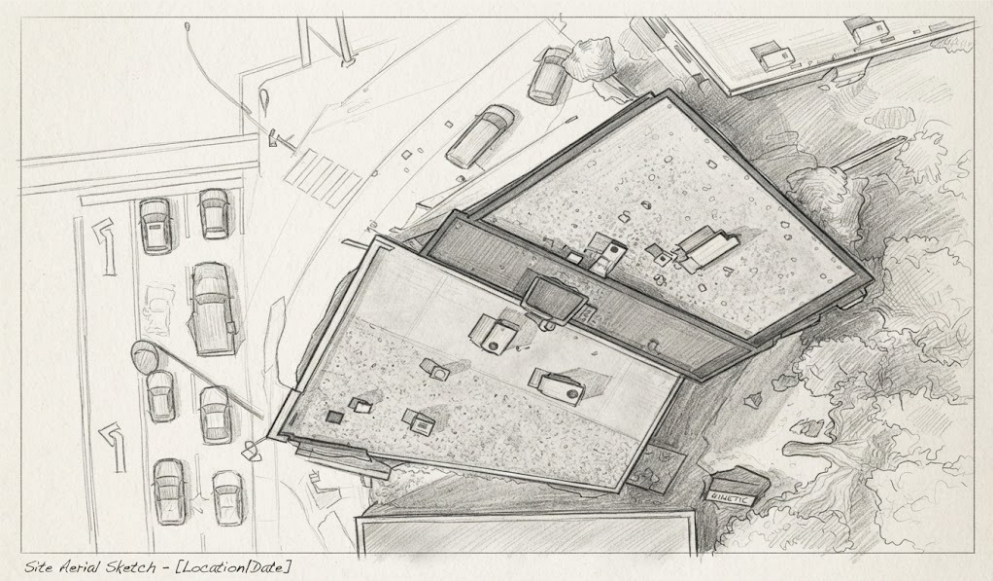
- Interviews were not conducted. Rationale of level of effort to get interviews provided.
- Groundwater was only encountered within bedrock and not in soil units above the bedrock, with one of the two wells dry. Addendum provided multiple lines of evidence for flow direction, and well location providing most probable for contamination. Addendum was able to provide groundwater data from adjacent property that supported reports conclusions.

Lessons Learned #2



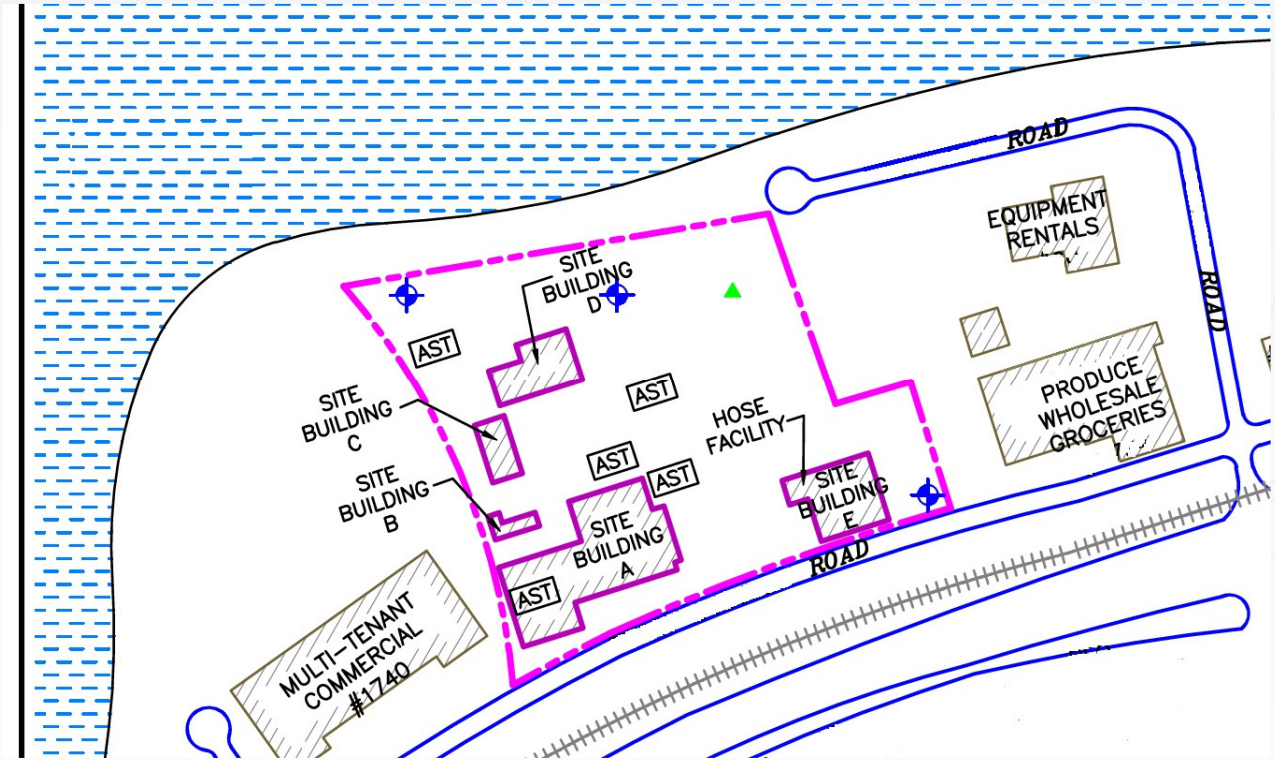
- CoC for site included lead and copper in fill, but that did not match wide area results for adjacent property. Addendum identified that statistically the copper and lead were similar between properties, but as off-site property was industrial rather than residential, it was not identified as part of wide area fill.

Lessons Learned #2



- Shallow soil contamination was identified beneath the building foundation. The foundation was identified to act similarly as a sidewalk for a type 1 risk control.
- The SLRA questionnaire identified that exposure scenarios required the completion of forms A-1 and A-2. The addendum stated that the forms were completed but inadvertently not included with the original submission.

Industrial Site Adjacent to River



- Industrial site with workshop, warehouse, welding shop, paint booth, and engine and component repair shop.
- APECs include former ASTs and USTs, sandblast area, paint booth, buried waste area, fill, welding shop and former electrical transformer.
- Site has been investigated numerous times since 1997.

Lessons Learned #3



- During the 1997 investigation, sulfate was identified as a CoC but was dropped during a later report. Identified contamination related to an AEC cannot be dropped without information supporting that it is non-anthropogenic. Data for total sulfur was discovered for that area that resolved the issue.
- It wasn't evident that the full set of PCOCs was investigated for each APEC. The data supported that with overlapping APEC areas PCOCs were adequately investigated. Document it clearly so that a reviewer can easily confirm.

Lessons Learned #3



- TG8 provides guidance regarding plume stability assessment. When assessing stability of inorganics data variability is not unexpected. “demonstration of stable or decreasing concentrations within and at the margins of the contaminant plume is required as part of assessment of plume stability”. Provide a discussion of the stability results and rationale for the variability and stability for the investigation area as a whole.

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TRC Road Salt Management Review Special Project

This meeting is being conducted from the traditional, ancestral, and unceded territory of the Coast Salish peoples, including Squamish, Tsleil-Waututh, Musqueam



Steve Boyce, Principal
Emmanuelle Caws, Project Engineers
Ryan Taylor, Senior Project Manager
Active Earth Engineering Ltd.

ACTIVE EARTH

Road Salt Impacted Soil Management Review

Key findings and recommendations for BC

Emmanuelle Caws, P.Eng. · Ryan Taylor, B.Sc., P.Ag. · Steve Boyce, B.A. (Env), LEED G.A.
Active Earth Engineering Ltd.
BC CSAP Society Fall 2026 PD Workshop | Vancouver, BC

CSAP

Prepared for the Society of Contaminated Sites Approved Professionals of BC

Today's agenda

1	**Why this matters, and why now** Context, objective & scope of work	Steve Boyce
2	**How we did it** Desktop review & 13 practitioner interviews	Emmanuelle Caws
3	**What we found** Other jurisdictions & British Columbia	Emmanuelle Caws
4	**What we recommend** Ten items for CSAP Society & ENV consideration	Ryan Taylor
5	**Questions & discussion** 10 minutes	All

Why this matters

Context, objective and scope of work | Steve Boyce






ACTIVE EARTH

The importance of road salt

“… the application of road salt provides significant safety and operational benefits… reducing the risk of accidents… It’s cost-effectiveness, rapid action, and versatility make road salt an essential tool for maintaining reliable transportation…”

CSAP Society, Request For Proposals, Road Salt Impacted Soil Management Review

The challenge for construction projects in BC

“However, projects in British Columbia … continue to see significant costs and project delays associated with the assessment, remediation and disposal of road salt impacted soil. While the potential to reuse … this soil as backfill … can often exist, current regulatory requirements are too cumbersome to allow for timely approvals …”

CSAP Society, Request For Proposals, Road Salt Impacted Soil Management Review

Industry Opinions

~50%

of roadway / parking lot investigations encounter chloride

- BC consultant

~80%

of soil testing programs on utility projects find salt impacts

- BC energy utility

~10×

Salt is the most common contaminant in fine grained soil received, by a factor of 10

- BC soil-recycling facility

18+ mo

Typical time reported to obtain a Waste Discharge Authorization to backfill salt-impacted soil on-site

- BC practitioners

6 mo

delay on a major project due to chloride impacts identified mid-construction

- BC civil contractor

$1,000s

in added cost per utility connection

- BC municipality

Figures as reported by interviewees; not independently verified by Active Earth.

Why this review is important and timely



Cost & schedule factors

Disproportionate cost impacts for maintenance and capital projects of all sizes. Current tools (WDA / AiP) don't fit construction schedules.

Sustainability

Hauling, disposing, and importing new fill that will be re-impacted drives GHG emissions, road wear, and excess landfilling.

Proven models elsewhere

Other jurisdictions provide greater flexibility and QP judgement for reuse and/or relocation of road salt impacted soils.

Broad appetite for practical change

Government, industry and consulting voices appear generally aligned in identifying a need for change.

Objective and Scope of Work

Objective Review how soil impacted by winter road salt is managed in BC and other northern-climate jurisdictions, and recommend potential regulatory improvements for BC.

1 — Mar–Jun 2026

External jurisdictional review

Canada, U.S., Europe + interviews

2 — April–Jun 2026

BC regulatory review

EMA, CSR, Protocols, TG, specs + 8 BC interviews

3 — Jul 2026

Preliminary results

Presented to CSAP TRC and ENV (discussion & feedback)

4 — Oct 2026

Draft & final reports

Formal summary of findings

5 — Today

PD workshop

Presentation of findings

Scope boundaries: Anthropogenic road-salt impacts only (natural/marine salinity likely warrants separate work). Our role was to gather information, opinions and ideas, not to verify all individual views, provide legal opinions, or assess regulatory effort.

How we did it

Desktop review and practitioner interviews | Emmanuelle Caws






ACTIVE EARTH

Desktop review: one structured lens, many jurisdictions

1 — **Canadian federal**

13 — **Provinces & territories**

6 — **Northern U.S. states**

6 + EU — **Northern European countries**

Each jurisdiction screened for:

- Is salt in soil explicitly regulated?
- Numerical standards for sodium and/or chloride?
- Is on-site and off-site reuse / relocation achievable?
- Exemptions for off-site relocation?
- Is salt routinely tested on linear infrastructure?
- Can site-specific standards be readily developed?

Plus BC's EMA, CSR, Protocols & Technical Guidance, MOTT and MMCD specifications, road-salt lifecycle guidance and peer-reviewed literature, logged in a sortable spreadsheet.

13 practitioner interviews, June to August 2026



British Columbia

Provincial government	BC ENV · BC MOTT
Municipal government	City of Victoria · City of Vancouver
Environmental consultants	Core6 · Thurber
Industry	GRT (soil treatment facility) · FortisBC (utility)

Other jurisdictions

Municipal government	City of Calgary (AB) · Ville de Montréal (QC)
Environmental consultants	Geosyntec (ON) · Dillon (NS)
Land reuse charity	CL:AIRE (UK)

Statements are not attributed to individuals; views are personal professional opinions, not those of employers. Four interviews were by written correspondence.

What we found

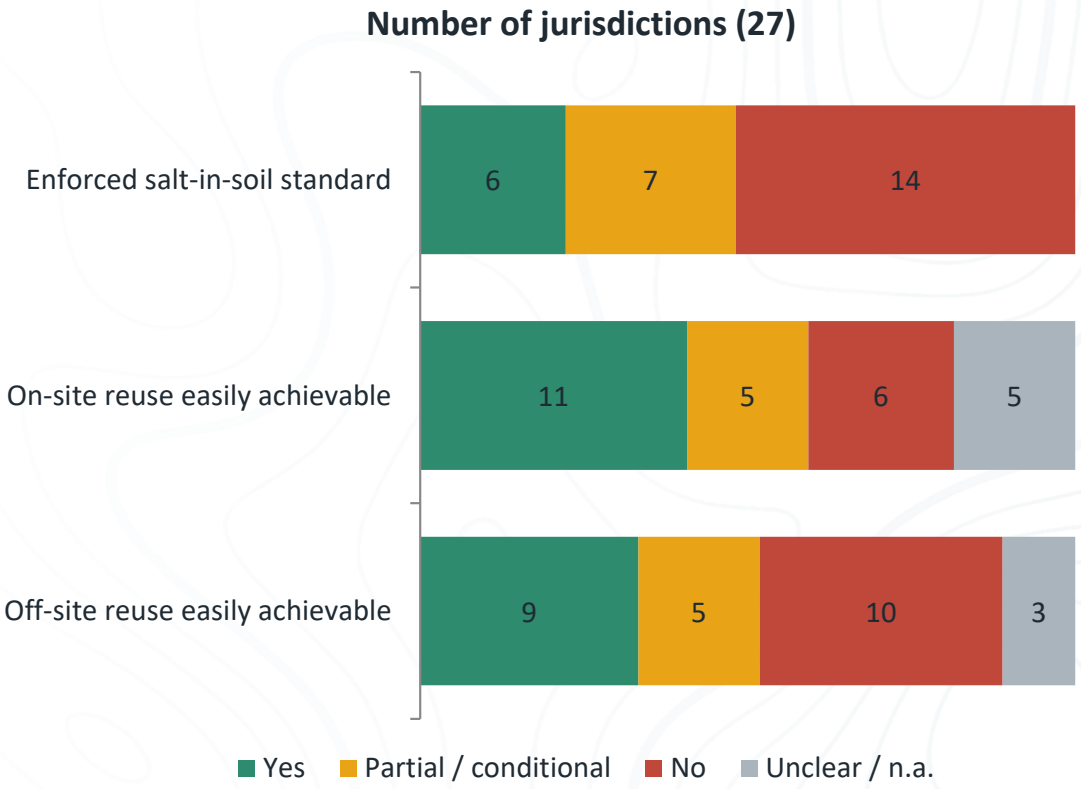
Other jurisdictions and British Columbia | Emmanuelle Caws






ACTIVE EARTH

BC sits at the restrictive end of the spectrum



Per Table 1 from the report of findings; not a legal statement of any jurisdiction's requirements.

Takeaways

- Most jurisdictions have no enforced salt-in-soil standard; many don't routinely test for salt.
- Only BC and North Dakota combine an enforced standard with no “easy” on-site or off-site reuse pathway.
- Ontario regulates chloride yet enables reuse and relocation through conditional exemptions.

Jurisdictional comparison at a glance

Jurisdiction	Salt standard?	"Easy" on-site reuse	"Easy" off-site reuse
British Columbia	Yes	No	No
Canada (Federal)	No	n/a	n/a
Alberta	Partial	Unclear	No
Saskatchewan	Partial	No	No
Manitoba	Indirect	Cond.	No
Ontario	Yes	Yes	Yes*
Quebec	No	Yes	Yes
Nova Scotia	Yes	Cond.	No
New Brunswick	Yes	Cond.	Cond.
Prince Edward Island	Indirect	No	Cond.
Newfoundland & Lab.	Yes	Cond.	Cond.
Nunavut	Indirect	Cond.	Cond.
Northwest Territories	Indirect	Unclear	No
Yukon	No	No	No

Jurisdiction	Salt Standard?	"Easy" on-site reuse	"Easy" off-site reuse
Washington State	No	Unclear	Unclear
Alaska	No	Yes	Yes
New York State	No	Yes	Yes
Vermont	No	Yes	Yes
North Dakota	Yes	No	No
Minnesota	No	Yes	Yes
Sweden	No	Yes	No
Denmark	Partial	No	No
Germany	No	Yes	Yes
Poland	No	Unclear	Unclear
France	No	Yes	Yes
Switzerland	No	Yes	Yes
United Kingdom	No	Yes	Cond.

Select findings from other provinces

Ontario

Consultant

Conditional "exempt contaminant" provision lets qualified persons direct reuse of soil impacted by winter-safety salt without case-by-case pre-approval. Geotechnical suitability, not regulation, is the main barrier. Iterative regulatory evolution: near-annual amendments since 2019.

Alberta

City of Calgary

No chloride-specific soil guideline or provincial reuse framework; salt assessed via SAR and EC. Informal risk-based judgment is flexible but untracked. Where chloride is tested, it's most often done to assess corrosion risks to utilities.

Quebec

Ville de Montréal

No enforceable salt standard, only a non-binding salinity guideline. Salt rarely tested and not a barrier to relocation absent other contaminants. SAR/EC sometimes tested to assess utility corrosion risk.

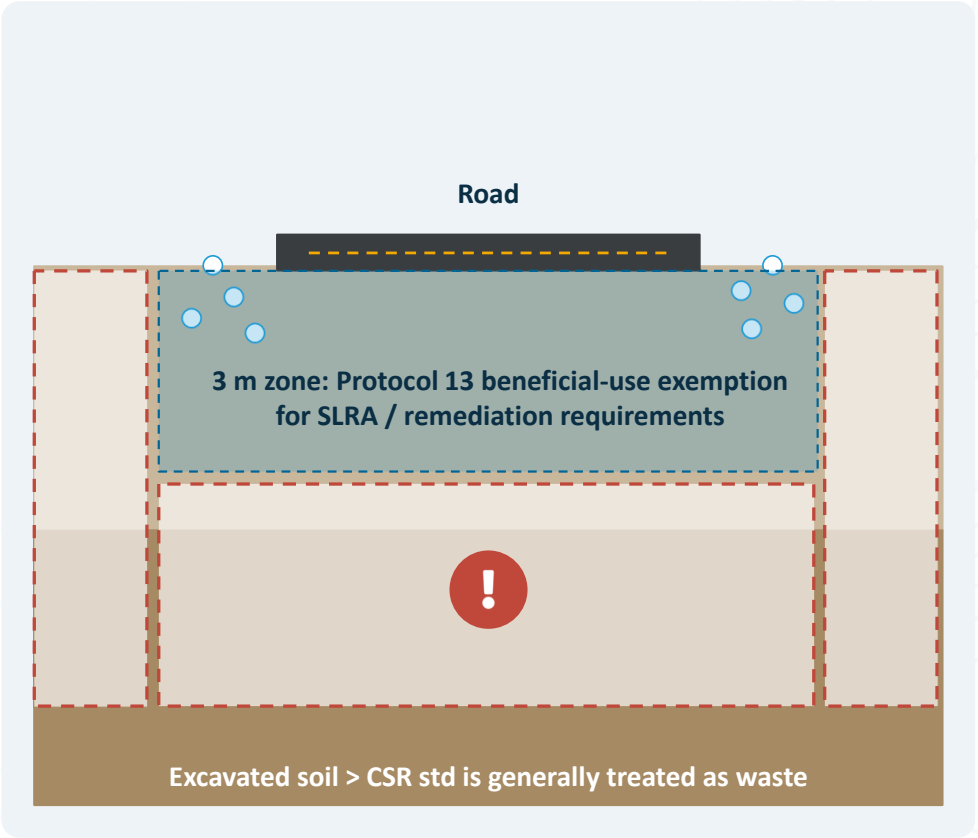
Nova Scotia

Consultant

Relocating soil above Na/Cl criteria to an unimpacted site is contaminated-soil relocation. Soil can stay on the origin site via Tier 2 / Tier 3 risk approaches, or go to an approved faciEC1

Emmanuelle Caws, 2026-11-02T23:23:30.112

BC framework: enforceable standards, narrow relief



Existing relief pathways

P4	Local background concentrations
P13	Beneficial use within 3 m of road surface provides relief for remediation, but no relief for on-site reuse or off-site relocation
P2/27	Site-specific standards from leachate testing: limited relief
WDA / AiP	Same-site backfill / consolidation: WDA reported at ~18 months+
Other	Winter maintenance sand use on roadways (P19 exemption); marine near-shore relocation relief (TG20, no longer in effect)

MOTT specifications, MMCD and road-salt lifecycle guidance govern salt procurement, storage and application, but defer to the CSR for soil management decisions.

What we heard in BC: government

Provincial (ENV & MOTT)

- Current Na and Cl standards viewed as scientifically grounded
- Gap: practical, tailored exemptions and conditional pathways for salt impacted soil management
- ENV: meaningful change likely needs CSR (and possibly EMA) amendment; policy change capacity historically limited
- MOTT: full pre-characterization of highway soil is cost-prohibitive; receiving-site practice varies by region; relocation of salt impacted soil drives significant costs

Municipal (Victoria & Vancouver)

- Chloride exceedances common
- Disproportionate cost for minor maintenance and capital work
- Limited potential for reuse in roadways: space and geotechnical constraints, so off-site relocation cost is the primary concern.
- Untapped opportunity: coordinate testing with BC Hydro, FortisBC, others to avoid duplicated efforts

No BC interviewee advocated repealing or arbitrarily weakening the sodium or chloride standards.

What we heard in BC: consultants and industry

Environmental consultants

- Aesthetic (taste) basis of the existing Chloride drinking-water standard
- Excavated salt-impacted soil often can’t be backfilled or relocated on-site without a WDA (~18 months+)
- Natural coastal / marine salinity hard to distinguish from road salt
- Projects incur relocation costs with negligible benefit to the source site environment

Soil facilities & utilities

- Off-site relocation is the bigger cost and logistics issue vs on-site reuse restrictions
- Consider relief for drinking-water pathway for receiver sites with no current or future drinking-water use
- Consider relief for soil transfer sites (incl. aggregate producer sites) if salt-impacted soil is reused at road/highway projects

What we recommend

Ten items for CSAP Society and ENV consideration | Ryan Taylor






ACTIVE EARTH

Recommendations at a glance

Direct regulatory implications

1. **Easier reuse and relocation for lower-risk sites**
2. **Facilitate efficient same-site reuse (Protocol 13)**
3. **Better tools to differentiate natural salinity from road salt**
4. **Refined analytical approaches**
5. **Enable relief for coastal / near-shore relocation**
6. **Relief for soil transfer sites where the final receiver site is road/hwy**
7. **Reassess basis of the chloride DW soil standard**

Protocol refinements are likely quicker and may be comparably effective vs. changing CSR standards.

Non-regulatory

8. **Inter-agency & utility soil data-sharing**
9. **ENV outreach, training & technical forums**
10. **Resource an ENV-led salt soil policy initiative**

Presented in no particular order. Not endorsed by ENV, CSAP Society or interviewee employers. Implementation effort was outside our scope.

Recommendations 1 to 3: reuse and background

1

Easier reuse and relocation for lower-risk sites

Consider exemptions (informed by Ontario) for QP-directed on-site reuse and off-site relocation of soil impacted solely by safety-related salt, without requiring a WDA. Would likely include conditions that provide reasonable protection to drinking water, crops, etc.

Possible mechanism: WDR or CSR amendment, or new/revised Protocols

2

Facilitate efficient same-site reuse (Protocol 13)

Provide exemptions to enable backfilling or on-site relocation / consolidation of salt-impacted soil within road and highway ROWs, without requiring a WDA. May be feasible via Protocol 13 amendment.

Possible mechanism: revised CSR Protocol 13

3

Tools to differentiate natural salinity vs road salt

Remediating marine-influenced salinity (Vancouver Island and coast) adds cost without reducing risk. Consider location-based Na/Cl standards or background datasets, and define whether and how they apply only to natural salt impacts.

Possible mechanism: Protocol 4 guidance refinement; regional background datasets

Recommendations 4 to 6: analysis and receiving sites

4

Refined analytical approaches

Refine tools for comparing leachate (saturated paste) results directly to DW standards, without changing the soil standard. Could pair with adjusting the Cl DW matrix factor and/or GPM default dilution factor.

Possible mechanism: TG13 / TG24 update or Protocol 2 / 27 revisions

5

Defined coastal / near-shore relocation criteria

Formalize criteria for placing salt-impacted soil on near-shore lands. This can better support beneficial uses such as shoreline protection, beach nourishment and land-raising for sea-level-rise adaptation.

Possible mechanism: Protocol or policy guidance

6

Relief for temporary receiver sites

Allow soil washing, transfer and aggregate facilities to accept and store road-salt-impacted soil without a WDA, if the material will later be relocated to road / highway projects. Site controls may still be needed.

Possible mechanism: new or revised Protocol and/or EMA / CSR amendment

Recommendation 7: the chloride DW soil standard

7

The issue

Interviewees across government, consulting and industry independently noted the most conservative chloride soil standard is tied to an aesthetic (taste) drinking-water objective rather than a health-based threshold.

Note: Health Canada also tracks a Health-Based Value (HBV) for Chloride in water that is approx. 2x the Aesthetic target. This is intended to protect against elevated blood pressure and hypertension assuming that elevated Sodium is also present.

a

Revise the chloride DW matrix factor

If aesthetics are non-critical, provided risks stay controlled by other standards (Na DW matrix, Cl aquatic life matrix).

b

Review the parameters

Are chloride and sodium ions the most useful controls, versus Sodium Adsorption Ratio (SAR) as used elsewhere?

c

Exclude the Cl DW factor for qualifying receiver sites

e.g. no current or foreseeable drinking-water use (links to item 5). Mechanism: revised CSR Protocol 21.

d

Director's Interim Standard

Consider an interim step for more immediate relief while these questions are assessed.

Recommendations 8 to 10: non-regulatory actions

8

Inter-agency & utility data-sharing

BC Hydro, FortisBC, municipalities and MOTT often work in the same ROWs. Better coordination could cut redundant testing and cost: a lower-cost initiative ENV or CSAP Society could help facilitate.

Possible mechanism: non-regulatory coordination initiative / guidance

9

ENV outreach, training & technical forums

Regular forums could address inconsistent interpretation, e.g. backfilling salt-impacted soil and Notification of Independent Remediation for routine road work. Substantive industry engagement with all parties in the salt-impacted soil management supply chain.

Possible mechanism: non-regulatory outreach initiative

10

Resource an ENV-led policy initiative

Both provincial interviewees cited capacity, not willingness, as the main obstacle to past reform. Funded technical and policy resources improve the odds that items 1 to 9 achieve success.

Possible mechanism: funding / resourcing program

Quick wins to longer reforms



Non-regulatory

Coordination, outreach, resourcing

8 9 10

Protocol / guidance

Protocols 2, 4, 13, 21, 27 ; TG13 / TG24; interim standard; new protocols

1 3 4

5 7c 7d

Regulation / Act

WDR, CSR standards, EMA enabling changes

2 6 7a

7b

Implementation effort was not evaluated in detail within our scope.

Key takeaways

BC is an outlier

Enforceable Na/Cl soil standards with few practical reuse pathways, unlike most northern jurisdictions reviewed.

The cost is real

Common exceedances, long WDA timelines and off-site disposal drive cost, delays and other socio-environmental impacts.

Protection & practicality align

Apparent consensus and motivation for targeted, conditions-based pathways, not repealing protective standards.

Start with highest-value items

Coordination, outreach, resourcing and Protocol refinements could progress while larger regulatory amendments are assessed.

ACTIVE EARTH

Thank you. Questions?

With thanks to CSAP Society, the Technical Review Committee, ENV, and all practitioners who shared their time and insights.

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Afternoon Break

We will reconvene at 2:45 p.m.



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What Responsible Persons Should Know: Guidance for Ongoing Conditions and Requirements

This meeting is being conducted from the traditional, ancestral, and unceded territory of the Coast Salish peoples, including Squamish, Tsleil-Waututh, Musqueam



Kerri Skelly

Manager Operations, Site Remediation Program,
Ministry of Environment and Parks

What Responsible Persons Should Know:

Guidance for Ongoing Conditions and Requirements

A practical briefing for Environmental Consultants

November 5, 2026

Kerri Skelly Manager, Operations

BRITISH COLUMBIA | Ministry of Environment and Parks

What is this all about…..

ENV is hearing more and more concerns from development groups that they did environmental work and thought they were done.



Ongoing responsibilities are holding up projects, costing time and money because weren't planned for



Transfer of responsibilities after property sales is confusing



Soil management options are limited, and it wasn't known there would be disposal restrictions



Releases aren't for all the permits needed



ENV provides guidance but does not always have direct contact with responsible persons at the critical stage in development

Client communication needs

What governs the site

- Applicable legislation and protocols
- The issued certification document, schedules and referenced plans
- Exact site boundaries, conditions and deadlines
- Authorizations/permits

Recommended practice

- Explain each condition in plain language
- Assign actions, owners and due dates
- Give the client a written handover and confirm understanding
- Importance of information sharing with future contractors



Certification Documents



Certificate of Compliance (CoC)

A CoC confirms remediation under EMA section 53(3). Its scope and conditions are important.

What the client should understand

- The certified area and applicable land and water uses
  - Contaminated Sites Regulation land use criteria may not directly align with municipal zoning
- Residual contamination and essential risk controls, where applicable
- Each Schedule B condition and referenced management plan
- Any required monitoring, maintenance or reporting
- When proposed work needs further professional review

A Certificate of Compliance is a snapshot in time based on reports received by ENV. It may not be valid in the future if conditions change.



A CoC is only as good as the substances listed

- **does not close the door on all future liability**
  - If a substance was not included on a CoC or within the supporting documents, the recipient of the CoC could still be responsible for future remediation
  - The ministry can require additional investigation if a missed substance is determined to cause harm to human health or the environment
  - The Ministry makes ***no representation or warranty … as to the accuracy or completeness of the information*** included in supporting documents

Approval in Principle (AiP): Work remaining

Approved remediation plan

- Explain the work and conditions the AiP approves. Completion needs evidence.

Implementation responsibilities

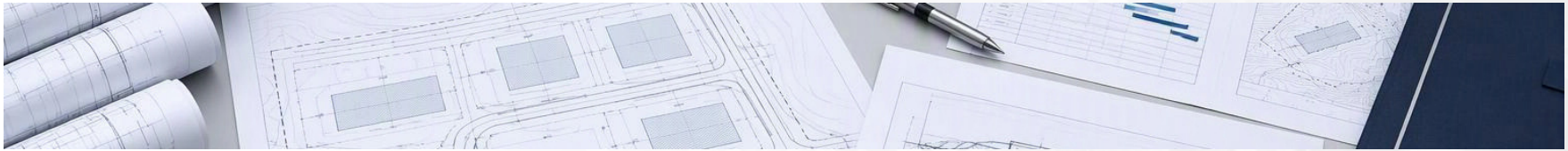
- Identify who carries out the work and tracks milestones.

Controls during the work

- Explain monitoring and any discharge conditions (permitting) in the AiP.

Changes and completion

- Review departures from the plan and the intended certification pathway.



Site Releases

Site Disclosure Statement release notices

A one-time release removes restrictions on specified local government approvals. It does not certify remediation.

Limits, conditions and deadlines

- Identify the specific subdivision, zoning or permit approval covered
- Explain the release scenario and every attached condition
- Track investigation and remediation commitments
- For Scenario 3, Director's requirements may be included. Remediation confirmation required upon completion.
- Confirm the actual deadline and remaining approvals in writing. What needs to happen after the initial release is granted.

Soil Management

Soil relocation needs a separate conversation



Before soil leaves a site

- Confirm past and current Schedule 2 uses
- Assess soil and vapour quality and the applicable relocation pathway
  - A Protocol 4 approval for the site doesn't mean the soil meets standards at another location
- Check notification requirements and exemptions
- Where required, notify at least one week before removal

Before acceptance at receiving site

- Confirm suitability of the receiving site
  - Land use
  - First Nations land
  - Property ownership and practices
  - Loval government permitting
- Check soil and vapour criteria and other applicable legal requirements
- Confirm receiving site responsibilities
  - High volume site requirements
- Keep quality records, destinations and quantities

Ongoing soil management after approval

- Before ground disturbance
  - Review the site plan and residual impacts. Confirm how the work will protect existing controls.
- During excavation
  - Brief contractors on soil handling, stockpiles and what to do if they find unexpected conditions.
- After site changes
  - Review changes to land use, grading or site controls. Confirm whether further action is needed.
- Throughout ownership
  - Maintain required controls and records. Give new owners and operators the information they need.

Tools you could use

A condition-to-action register

Potential handover tool

Use the exact clause, then record how the client will meet it.

Record	Client action	Accountability
Exact condition	Plain-language meaning	Clause and document
Site control	How to protect it	Responsible person
Monitoring	What to check or report	Frequency and recipient
Deadline	Required deliverable	Due date and evidence
Change trigger	When to seek advice	Contact and next step



Client handover package

01 Issued document

02 Schedules and plans

03 Site limits and controls

04 Action register

05 Dates and reporting

06 Soil movement advice

07 Change triggers

08 Contacts and records

The client understanding check

- What does this document cover?
- What must we do, and by when?
- Who do we contact before anything changes?
- What are the possible consequences for not following through?



Compliance & Enforcement

Compliance is the responsibility of the property owner



- Enforcement records are issued to responsible person, not consultant/representative*
- Compliance and Enforcement records include:
  - •inspection reports
  - •orders
  - •administrative monetary penalties (AMPs)
- These are publicly available on the Natural Resource Compliance and Enforcement Database (nrced.gov.bc.ca)
- AMPs receive considerable media attention

*consultant named in inspection report



BRITISH COLUMBIA

Ministry of Environment and Parks



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Interactive Discussion with the Ministry of Environment and Parks

This meeting is being conducted from the traditional, ancestral, and unceded territory of the Coast Salish peoples, including Squamish, Tsleil-Waututh, Musqueam

David Mitchell, P.Eng., CSAP
Active Earth

Kerri Skelly
Manager Operations, Site Remediation Program,
Ministry of Environment and Parks

Kahoot Instructions



- Join Kahoot at **www.kahoot.it**
- **Enter game pin**
- **Enter your name / nickname**
- **Please refer to handout for questions.**
- You have 30 seconds to answer each question. Answer the question by choosing the shape(s) on that correspond with the correct answer.
- There will be a variety of questions, some with one correct answer only, some with multiple correct answers, and true or false questions.

Kahoot Instructions



- After each question, a leaderboard will show the top 5 players.
- Points are awarded based on the speed you answer. The quicker you answer the question, the more points you get!
- You score higher points as you answer each question correct consecutively.
- There will be 3 prizes awarded at the end for the winner and 1st and 2nd runner up.

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THANK YOU

Benefits of Associate Membership

- Provides a pathway for individuals interested in contaminated sites work who do not yet meet the full requirements for full membership
- Serve as an interim to stay connected while working toward full membership
- Access to ongoing industry updates
- Non-voting member, but with access to CSAP's educational resources (i.e., PD webinars)
- Engage and consult with other environmental professionals, and industry stakeholders in BC's contaminated sites sector through access to CSAP workshops and AGM

Call for Case Studies

The CSAP PD Committee is looking for interesting case studies highlighting:

- Complex sites
- Innovative solutions
- Unusual scenarios that required professional judgement or ENV input
- Sites that underwent CSAP PAs or ENV review and lessons learned as a result

Closing Remarks

- If you haven't physically signed in, please do so at the registration table when you leave. Otherwise, you will **not** earn 6 PD hours!
- Please return your badges to the registration table.
- Stay tuned for the post-event survey via email.
- Join us after the event for a no-host happy hour in the foyer until 6:00 p.m.

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THANK YOU