



SHUSWAP EMERGENCY PROGRAM EXECUTIVE Regular Meeting AGENDA

Date: Wednesday, October 4, 2023
Time: 8:30 AM
Location: CSRD Boardroom
555 Harbourfront Drive NE, Salmon Arm

Pages

1. **Land Acknowledgement**

We acknowledge that we are meeting in service to the Columbia Shuswap Regional District which is on the traditional and unceded territories of the Secwepemc, Syilx Okanagan, Sinixt and Ktunaxa Nation. We are privileged and grateful to be able to live, work and play in this beautiful area.

Declaration on the Rights of Indigenous Peoples Act
Article 20:

1. Indigenous peoples have the right to maintain and develop their political, economic and social systems or institutions, to be secure in the enjoyment of their own means of subsistence and development, and to engage freely in all their traditional and other economic activities.
2. Indigenous peoples deprived of their means of subsistence and development are entitled to just and fair redress.

2. **Call to Order**

3. **Approval of Agenda**

4. **Meeting Minutes**

4.1 **Adoption of Minutes**

1

4.2 **Business Arising from the Minutes**

5. **Staff Reports**

5.1 **Bush Creek East Wildfire Review**

7

Report from Derek Sutherland, Team Leader Protective Services, dated Sept 25, 2023.

5.2	CSRD Wildfire Recovery Management	19
	Report from Derek Sutherland, Team Leader Protective Services, dated Sept 28, 2023.	
5.3	Shuswap Emergency Program Communications	20
	Report from Tracy Hughes, Communications Coordinator, dated September 28, 2023.	
5.4	Wiseman Creek: Post Wildfire Debris Flow Risk	22
	Report from Tom Hansen, Emergency Program Coordinator, dated Sept 25, 2023.	
5.5	Newsome Creek Update	23
	Report from Tom Hansen, Emergency Program Coordinator, dated Sept 25, 2023.	
5.6	FireSmart Update	60
	Report from Tom Hansen, Emergency Program Coordinator, dated Sept 25, 2023.	
5.7	Structure Protection Unit (SPU) Program	63
	Report from Tom Hansen, Emergency Program Coordinator, Sept 26, 2023.	
5.8	Shuswap Emergency Program (SEP) Training and Program	64
	Report from Tom Hansen, Emergency Program Coordinator, Sept 26, 2023.	
5.9	Emergency Support Services (ESS)	65
	Report from Cathy Semchuk, Emergency Program Coordinator, dated September 25, 2023.	
5.10	Neighbourhood Emergency Program (NEP)	
	Report from Cathy Semchuk, Emergency Program Coordinator, dated September 25, 2023.	
5.11	Evacuation Route Planning	67
	Report from Cathy Semchuk, Emergency Program Coordinator, dated September 25, 2023	

6. Next Meeting

TBD

7. Adjournment



SEP EXECUTIVE MEETING MINUTES

Note: The following minutes are subject to correction when endorsed by the SEP Executive at the next meeting.

Date: April 18, 2023
 Time: 10:00 AM - 12:00 PM
 Location: CSRD Boardroom
 555 Harbourfront Drive NE, Salmon Arm

Members Present	M. Gibbons	Electoral Area C Director
	D. Trumbley	Electoral Area D Director
	R. Martin	Electoral Area E Director
	J. Simpson	Electoral Area F Director
	N. Melnychuk	Electoral Area G Director
	A. Harrison	City of Salmon Arm Mayor
	K. Flynn	City of Salmon Arm Director
	C. Anderson	District of Sicamous Director

Staff Present	D. Sutherland	Team Leader, Protective Services
	C. Semchuk	Emergency Program Facilitator
	D. Webber	Administrative Clerk
	C. Robichaud	Legislative Clerk

1. Land Acknowledgement

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Declaration on the Rights of Indigenous Peoples Act
 Article 6: Every indigenous individual has the right to a nationality.

2. Call to Order

The chair called the meeting to order at 10:05 AM.

3. Approval of Agenda

Moved By Director Flynn
Seconded By Director Melnychuk

THAT: the agenda of the April 18, 2023 Shuswap Emergency Program Executive Committee be approved as amended.

Discussion:

Team Leader, Protective Services asked to speak about Committee Chair and Vice Chair elections. Added to item 4.2 business arising from the minutes.

CARRIED

4. Meeting Minutes

4.1 Adoption of Minutes

Moved By Director Anderson

Seconded By Director Simpson

THAT: the minutes from the December 13, 2022 Shuswap Emergency Program Executive Committee be adopted.

CARRIED

4.2 Business Arising from the Minutes

Request from staff to consider holding elections for the position of Chair and Vice Chair for the committee every 2 years as the Shuswap Emergency Program Executive Committee meets only 2-3 times per year.

Moved By Director Flynn

Seconded By Director Simpson

THAT: the Committee recommends the Board direct staff to conduct a review of the bylaws to permit the Shuswap Emergency Program Executive Committee elections for Chair and Vice Chair to take place every 2 years.

CARRIED

Opposed: Director Martin

5. Business General

5.1 2022 Shuswap Emergency Program Annual Report

Late Agenda: Annual Report added.

Discussion:

Team Leader, Protective Services gave a summary of the Shuswap Emergency Program Annual Report 2022.

5.2 Seasonal Outlook for Shuswap Emergency Program Area

Team Leader, D. Sutherland Protective Services to supply an update regarding FRESHET - flood risk and wildfire conditions.

Discussion:

Team Leader, Protective Services discussed the snowpack and lake levels and noted the region was at drought level 3.

5.3 Mass Notification System

Update from CSRD staff.

Discussion:

Team Leader, Protective Services stated the mass notification system was a useful tool to provide essential information to the public and to date there were 14,500 subscribers.

5.4 Wiseman Creek Post Wildfire Debris Flow Risk

Derek Sutherland, Team Leader Protective Services to provide update.

Discussion:

Team Leader, Protective Services advised that post wildfire drainage for the Wiseman Creek area was expected to continue for the next 2 years and continues to pose a risk to residents. He said staff were planning for the worst and hoping for the best based on information provided by geotechnical engineers.

The Committee agreed that a conservative approach was best when factoring in the slope destabilization because public safety was paramount. The Committee advised that they preferred to have professional reports or briefing notes attached to future agendas as opposed to verbal updates.

5.5 FireSmart

Derek Sutherland, Team Leader, Protective Services to provide update.

Discussion:

Team Leader, Protective Services said a grant was received for the FireSmart program and the Board would be considering a pilot project to provide additional operating hours at the Scotch Creek and Skimikin transfer stations for disposal of yard waste to help residents FireSmart their properties.

5.6 Structure Protection Unit (SPU) Program

Derek Sutherland, Team Leader, Protective Services to provide update.

Discussion:

Team Leader, Protective Services said the new fully upgraded training trailer purchased in 2022 was ready for deployment.

5.7 Emergency Management Training and Exercises

SEP staff to report.

Discussion:

SEP staff would coordinate with Provincial staff to create an Emergency Management training session for elected officials in 2023.

5.8 Emergency Support Services (ESS)

Cathy Semchuk, Emergency Program Facilitator, to provide update.

Discussion:

Emergency Support Services (ESS) team continues with team focused training and exercising incorporating the newly update Evacuation Registration Assistance 2.0 tool. All volunteers completed the Justice Institute of BC training and certification prior to becoming an active user. Volunteers continue to collaborate closely with new untrained volunteers allowing for an all-inclusive approach to training. ESS hosts a monthly training session for between 25-30 volunteers.

5.9 Neighbourhood Emergency Program (NEP)

Cathy Semchuk, Emergency Program Facilitator to provide update.

Discussion:

Emergency Program Facilitator provided historical information about the program and mentioned that communities that engage in their own emergency planning and response recover faster than those communities that do not actively take part.

5.10 Evacuation Planning

Cathy Semchuk, Emergency Program Facilitator to provide update.

Discussion:

Emergency Program Facilitator stated that through the UBCM grant funding Shuswap Emergency Program (SEP) hired Red Dragon Consulting to complete evacuation planning templates and tools be utilized by SEP during evacuations.

5.11 Emergency Program Act

Report from Derek Sutherland, Team Leader, protective Services, dated April 18, 2023

Post Agenda - Email about the Emergency Program Act Review added.

Moved By Director Flynn

Seconded By Director Gibbons

THAT: the Committee recommend the Board write a letter to the Minister of Emergency Management and Climate Readiness and copy UBCM regarding the lack of communication and local government engagement with the modernized emergency management legislative change process.

Discussion:

Team Leader, Protective Services shared an email with the Committee regarding the Emergency Program Act review.

CARRIED

5.12 Capital Projects

Derek Sutherland, Team Leader, Protective Services to provide update.

Discussion:

Capital projects in the 2023 budget and funded through grants and deployment revenues:

- Structure Protection Unit facility and training trailer.

6. Next Meeting

Tuesday, November 21, 2023 at 10:00 AM.

CSRD Boardroom, 555 Harbourfront Drive NE, Salmon Arm, BC

Discussion:

The Committee asked that a discussion on culverts be included at the next meeting and that staff include staff reports, briefing notes, professional reports, or any other correspondence and updates as attachments to the agenda for information and public transparency.

7. Adjournment

Moved By Director Anderson

Seconded By Director Melnychuk

THAT: the Shuswap Emergency Program Executive Committee meeting of April 18, 2023 be adjourned.

CARRIED

11:53 AM

CORPORATE OFFICER

CHAIR



SHUSWAP EMERGENCY PROGRAM EXECUTIVE COMMITTEE REPORT

TO: Chair and Committee Members

SUBJECT: Bush Creek East Wildfire Review

DESCRIPTION: Report from Derek Sutherland, Team Leader Protective Services, dated Sept 25, 2023.

BACKGROUND:

The Lower East Adams Lake (LEAL) fire started by lightning on July 12, 2023, a week later it was threatening the communities of Dorian Bay, Woolford Point, and Enns Reach in the Columbia Shuswap Regional District (CSRD) and properties in the Thompson-Nicola Regional District (TNRD) and Adams Lake Indian Band (ALIB). On July 20 those communities were placed on evacuation alert. On August 2 an order was issued. That evening the fire grew very close to the communities without any structure loss.

On August 16 Lee Creek was placed on Evacuation Order due to the growing threat from the LEAL fire. On August 17 BC Wildfire Service (BCWS) conducted a controlled ignition of the unburnt areas between 14 km of guard and the fire front in an effort to protect Lee Creek and Scotch Creek. A spot fire on the other side of the guard near Meadow Creek Rd in Celista was threatening homes in the Meadow Creek Subdivision. Through August 18, SEP and BCWS saw increased fire behaviour and proceeded with evacuation orders from Scotch Creek through Magna Bay. Through that night the fire burnt 176 structures completely and damaged another 50 structures in the North Shuswap before merging with the Bush Creek East Fire. One of the structures was the Scotch Creek Fire Hall. The fire was then called the bush creek east fire and it extended into Sorrento.

Through the next three weeks, the SEP EOC, BCWS, and the CSRD Fire departments continued to respond to active fire situation in the North Shuswap and Area G. Communities in the North Shuswap that are not on order are cut off from road access via Squilax-Anglemont Rd and supplies are provided by alternative means. Three dozen staff were engaged in the EOC in Salmon Arm and all 13 CSRD fire Departments were represented in the affected communities to engage the fire. No further structures are lost.

On September 6 the SEP EOC downgraded the evacuation orders to alerts for the North Shuswap and facilitated re-entry for the residents. The individual properties with total losses remain on order. On September 23rd, evacuation alert areas are downgraded to all clear.

NEXT STEPS:

Recovery efforts will continue for the foreseeable future, SEP will continue to work with affected residents to aid with the recovery process through a resiliency centre and a recovery management company.

This report constitutes a high level synopsis of the event. The SEP EOC was active until late last week.

As an attachment to this report a list of the communications from the EOC is provided. This summary provides insight into the happenings from the EOC through the event.

Bush Creek East Wildfire | Messaging Timeline

Prepared by Mike Lupien of Butterfly Effect Communications / 27 September 2023

<p><u>July 12, 2023</u> Snuffbox Creek Fire, north of Celista. 7.4 hectares in size. Rank 1. BCWS deploys 23 firefighters to the scene</p> <p>Fire reported at Lower East Adams Lake</p> <p><u>July 17</u> Bush Creek East Wildfire 23km northeast of Chase, west of Adams Lake. Caused by lightning. 265 hectares in size. Rank 4.</p> <p>Lower East Adams Lake fire grows to 60 Ha, out of control. Rank 3-4.</p> <p>Fire at Bolean Lake Road in Electoral Area D of CSRD.</p> <p><u>July 18</u></p> <ul style="list-style-type: none"> • Lightning causes spot fires in Electoral Area E. • Afternoon BCWS reports two fires in North Shuswap, Anglemont near Evelyn Falls, plus a private property in Scotch Creek • Fires from East Malakwa corridor extinguished <p><u>July 19</u> Fire at Annis Forest service road 0.3ha in size Fire above Evelyn Falls is now under control</p> <p><u>July 20</u></p> <ul style="list-style-type: none"> • Evacuation Order issued for Lower East Adams Lake in Electoral Area F Rawson Road • Evacuation Alerts for CSRD, TNRD, and Adams Lake Indian Band 	<p><u>July 21</u> Lower East Adams Lake continues to burn away from populated areas. Fire growth to 320ha from 219ha</p> <p><u>July 23</u> Lower East Adams Lake Fire grows to 1786ha. Alerts still in place for CSRD, TNRD, Adams Lake Indian Band</p> <p><u>July 24</u></p> <ul style="list-style-type: none"> • Structural Protection Unit (SPU) moved into evacuation alert area of Lower East Adams Lake Wildfire. Growth to 2,000ha. Unsafe for BCWS to use ground crews. Helicopter support brought in. • Additional resources being assigned by BCWS <p><u>July 25</u> 9 AM Fire in Eagle Bay, Electoral Area C</p> <p>11:45 AM</p> <ul style="list-style-type: none"> • Fire at Eagle Bay is attacked and being held. Under control at 3:30 PM • 92 properties in CSRD on evacuation alert <p><u>July 26</u> Community meeting held by Shuswap Emergency Program, BCWS, RCMP and Adams Lake Indian Band for residents affected by Evacuation Alerts</p>
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<p><u>July 27</u></p> <ul style="list-style-type: none"> • Lower East Adams Lake wildfire is 2,000ha and 2.3km from closest residence • Smoke reported at Bolean Lake Road near Spanish Lake. Being held. Not likely to spread. <p><u>July 28</u></p> <p>Mass water delivery system moved into communities affected by Lower East Adams Lake Wildfire</p> <p><u>July 30</u></p> <p>Increased fire activity on the Lower East Adams Lake fire but no movement towards homes</p> <p><u>July 31</u></p> <p>BCWS redeploying SPUs to another fire. Shuswap Emergency Program has similar units to deploy.</p> <p><u>August 1</u></p> <p>Evacuation Alert partially rescinded for Lower East Adams Lake wildfire. This leaves 37 properties still on Alert.</p> <p><u>August 2</u></p> <ul style="list-style-type: none"> • BCWS projections show no imminent concern for structures • Smoke increased in the area but no danger to communities • Evacuation Order and Alert issued for Lower East Adams Lake Wildfire • Evacuation Order issued to remaining area (55 properties) that were on the Evacuation Alert • 92 properties evacuated • Evacuation Alert for Northern Reach of Tsutswecw Provincial Park 	<p><u>August 3</u></p> <p>Shuswap Emergency Program hosts a virtual session to update the public on the Lower East Adams Lake Wildfire</p> <p><u>August 4</u></p> <p>BCWS constructs a new machine-built fire guard to protect North Shuswap communities</p> <p><u>August 5</u></p> <ul style="list-style-type: none"> • SEP video update on fire status. • Minimal growth on the fire. Perimeter is now 4,283ha <p><u>August 6</u></p> <p>SEP issues notice that communities near the Lower East Adams Lake wildfire should be prepare themselves and their properties for fire</p> <p><u>August 7</u></p> <ul style="list-style-type: none"> • Reiteration of prepare message • Work progressing on the south flank of the fire guard <p><u>August 8</u></p> <ul style="list-style-type: none"> • Reception centre for wildfire evacuees is moved to the Prestige Harbourfront hotel. • Reminder that boats are not permitted in the evacuation areas <p><u>August 9</u></p> <p>Lower East Adams Lake wildfire size updated to 6,505ha</p>
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<p><u>August 11</u></p> <ul style="list-style-type: none"> • Water Quality Advisory issued for the Scotch Creek and Lee Creek Fire Hall and Community Hall • Fire at Beach Bay is out • Fire at Angle Mountain is being held <p>August 12 Evacuation Order downgraded to Alert for properties on Rawson Road, communities of Dorian Bay, Woolford Point, and Enns Reach</p> <p><u>August 13</u></p> <ul style="list-style-type: none"> • Residents return • Area south of Adams Lake Ferry Terminal, and part of Adams Lake Indian Band are still on Evacuation Order <p><u>August 15</u></p> <ul style="list-style-type: none"> • Increased smoke in the Shuswap area • BCWS shares update online • SEP stages structure protection units in North Shuswap <p><u>August 16</u></p> <ul style="list-style-type: none"> • Evacuation Alert issued for Lee Creek in Electoral Area F • Evacuation Alert extended into Scotch Creek <p><u>August 17</u></p> <ul style="list-style-type: none"> • Residents in Lee Creek and Scotch Creek are asked to be prepared to evacuate if necessary • Accommodation Form posted to CSRD website for those offering a place for evacuees 	<p><u>August 17 continued</u></p> <p>1 PM</p> <ul style="list-style-type: none"> • Winds expected to increase fire behaviour towards Lee Creek and Scotch Creek, and Meadow Creek Road in Celista • Instructions for those east of Evacuation Alert areas <p>8:30 PM</p> <ul style="list-style-type: none"> • SEP Update: BCWS planned aerial ignition of approximately 2,600ha was conducted in the afternoon and evening along the powerline in the North Shuswap • Evacuation Order for Meadow Creek Road, Evacuation Alert for Scotch Creek <p><u>August 18</u></p> <ul style="list-style-type: none"> • Evacuation Alert expanded for Meadow Creek, Line Road • Explanation that the backburn was affected by high winds and change of wind direction • Reminder that you must evacuate when an order is issued • Evacuation Order issued for Dorian Bay, Woolford Point, and Enns Reach • Evacuation Alert expanded for Celista areas, Scotch-Lamberton FSR area • Evacuation Order issued for Lee Creek and Scotch Creek • Evacuation Order issued for Celista area up to Evans Road • Evacuation Order for Little River Road. • Evacuation Order for Magna Bay • Message from EOC Director
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<p><u>August 19</u></p> <ul style="list-style-type: none"> • Evacuation Alert for Sorrento • Evacuation Order/Alert for Sorrento/Skimiklen Area • SEP Update • Lower Adams East Lake Fires merged and are now know as Bush Creek East Wildfire (K21633) <p><u>August 20</u></p> <p>10 AM</p> <ul style="list-style-type: none"> • Update on fires <p>4:30 PM</p> <ul style="list-style-type: none"> • Update on fires <p>7 PM</p> <ul style="list-style-type: none"> • Emergency Support Services • BCWS and structural fire departments are engaged in active and critical firefighting • CSRD, RCMP, BCWS and the community of North Shuswap are all in this together <p><u>August 21</u></p> <ul style="list-style-type: none"> • Thanks to people getting fuel and supplies to Ross Creek Store including RCMP, MOTI and SEP • 10 AM Update • Request public's assistance in refraining from moving or taking fire equipment • Temporary access permits not available due to safety and active fire • Public and first responder safety message from CSRD, TNRD, BCWS and RCMP addressing: • People remaining in the evacuation areas • Interfering with BC wildfire crews • Removal of structure protection equipment • Reporting criminal activity in the evacuation area to RCMP 	<p><u>August 22</u></p> <ul style="list-style-type: none"> • BCWS and CSRD Video Update x 2 • Message: Caution: Misinformation via email and social media regarding the need for permits in the evacuation area <p>6 PM General Update</p> <ul style="list-style-type: none"> • Video update with BCWS • No public temporary access permits • Donation information • Livestock information <p>8PM SEP Update</p> <ul style="list-style-type: none"> • Evacuation order means you are at risk • ESS Reception is now at Seniors Centre <p><u>August 23</u></p> <p>Message from Sean Coubrough, Deputy Regional Fire Chief. Video asking for the public's understanding of the situation</p> <p>2 PM</p> <ul style="list-style-type: none"> • Information briefing with BCWS <p>6:30 PM</p> <ul style="list-style-type: none"> • Message that Evacuation Order means you must leave. If you stay, you must remain on your property. Trust BCWS Operations. • CTF1 have completed 500+ rapid damage assessments. Once confirmed the information will be shared publicly. • No temporary access permits are being issued <p>Evening</p> <ul style="list-style-type: none"> • The "Convoy of Truth and Freedom" challenged RCMP officers at the checkpoint at Skwlax bridge for entry into the area. BCWS pulled out due to safety concerns.
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<p><u>August 24</u></p> <p>10 AM SEP Update</p> <ul style="list-style-type: none"> • Repeat of evacuation message to stay on your property if you choose not to leave. RCMP conducting patrols. • CSRD and BCWS working to collaborate with local community for a process for those willing to help with firefighting. • Repeat of message on structure loss. • Story about Evelyn, an ESS volunteer, on why it is important to help <p>2PM</p> <ul style="list-style-type: none"> • Information briefing with BCWS <p>6:30 PM</p> <p>Repeat messages re:</p> <ul style="list-style-type: none"> • Evacuation status dashboard • 2 PM update from BCWS • Structure losses • Evacuation orders • Emergency Support Services • Access permits • Sorrento wildfire • Donations • Barge being made available to ship supplies across the lake. <p><u>August 25</u></p> <ul style="list-style-type: none"> • Drive BC estimates TransCanada Highway will open at 10 AM today. • Evacuation Orders remain in place. <p>10 AM SEP Update</p> <ul style="list-style-type: none"> • Evacuation Order message • Structure Loss message • Highway 1 opening • ESS supports renewals • Prescription delivery for those out of the Evacuation Order area • Barge to ship essential supplies to North Shuswap • Temporary Access permits 	<p><u>August 25 continued</u></p> <p>2PM SEP Update</p> <ul style="list-style-type: none"> • Approximate property impacts: 131 Total structure loss; 37 partial loss • Interactive map available today to search your property and review its status • Evacuation order for Sorrento and Little River area downgraded to Alert. What to do when an Alert is in effect. • Evacuation Order for Skimiken area downgraded to Alert <p>Evening</p> <ul style="list-style-type: none"> • Property status information. CSRD online tool is now active. Message to contact CSRD if you do not know the status of your home. <p><u>August 26</u></p> <p>10 AM SEP Update</p> <ul style="list-style-type: none"> • Structure losses tool available • Highway 1 has reopened without access to side roads • BCWS has collaborated with the locals who want to help fight fires. Training is underway. • BC Hydro Update <ul style="list-style-type: none"> • Due to significant power outages all perishable food should be accessed and disposed of immediately upon return. • Fridges and Freezers may be impacted • Prescription delivery • Barge to ship essential supplies. • Video – Loss of homes doesn't deter Scotch Creek firefighters from their jobs. <p>2 PM Information Briefing with BCWS</p>
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<p><u>August 26 continued</u> Afternoon Update</p> <ul style="list-style-type: none"> • Barge to Anglemont-St. Ives to ship essential services. Use submission form to reserve a trip. • Evacuation Alert for Anglemont • Boil Water Notice lifted for Sorrento, MacArthur Reedman water systems. <p><u>August 27</u> 10 AM SEP Update</p> <ul style="list-style-type: none"> • Highway 1 reopening • BC Hydro food safety message • Barge for essential supplies • Garbage bins at Celista Fire Hall, Scotch Creek Market, and Anglemont Ross Creek Store. <p><u>August 28</u> 5 PM SEP Update</p> <ul style="list-style-type: none"> • Fire behaviour expected to increase over next two days • Food safety • Garbage bin locations • Highway 1 reopened • BC Hydro Update: Repairs to electric poles and lines are underway • Evacuation Order and Alert update <p><u>August 29</u></p> <ul style="list-style-type: none"> • Food waste removal after wildfire – CSRD bins and locations • Mental health support <p>1 PM SEP Update</p> <ul style="list-style-type: none"> • Highway 1 open but no side road access • Evacuation Order and Alert update • Food safety • Barge access form • Garbage bin locations 	<p><u>August 29 continued</u> 5 PM SEP Update</p> <ul style="list-style-type: none"> • Check ESS supports • Food safety • Garbage bin locations • BC Hydro Update • Wildfire Information briefing from 1 PM • Live information briefing tomorrow, sign up to join. <p><u>August 30</u> CSRD & BCWS fought a fire near Sorrento last night. A small evacuation order was issued. Water supply was temporarily interrupted due to pump failure. An Evacuation Order was issued for 14 addresses in Sorrento.</p> <p>2 PM Wildfire Information Briefing</p> <p>5 PM SEP Update</p> <ul style="list-style-type: none"> • Fire conditions • Structure loss: If you haven't heard from us, reach out. • ESS • Information line is open 8 AM-5PM • Food safety • Garbage bins and locations for damaged refrigerators and freezers. • BC Hydro update • Evacuation Status dashboard <p>Evening Story: Fueling the firefighters</p>
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<p><u>August 31</u> 1 PM Wildfire Information Briefing 7 PM EOC Update</p> <ul style="list-style-type: none"> • Fire conditions • Community meeting tomorrow • Structural loss • Whitehead Boat Launch is closed to accommodate the barge. You need a reservation for the Anglemont barge • ESS • Appliance disposal • Prescriptions • Donations <p><u>September 1</u> 12 PM Wildfire Information Briefing and Online Community meeting for residents 6:30 PM EOC Update</p> <ul style="list-style-type: none"> • Barge access and Whitehead Boat Launch • Recording of today's online community meeting is now available on SEP website • Next information briefing on Sept. 3. No briefings on Sept. 2 and 4. <p>Story: Shuswap Children's Association provides link with families</p> <p><u>September 2</u> Evacuation Alerts rescinded for Sorrento, Notch Hill, West Blind Bay, Skimiken and Tappen to All Clear. 7 PM EOC Update</p> <ul style="list-style-type: none"> • Changes to Evacuation Order and Alerts • Reach out re: structure loss • Emergency downgrade orders to come • Barge access and Whitehead Boat Launch • Weather and fire conditions • Appliance disposal • Prescription deliveries • Donations/Fundraisers 	<p><u>September 2 continued</u></p> <ul style="list-style-type: none"> • Boil water notice for Saratoga and Cottonwoods Water Systems <p>Story: Supply delivery an emotional journey for drivers Story: Second Harvest in Salmon Arm is doing its part to keep evacuees in the Shuswap well fed.</p> <p><u>September 3</u> 2 PM Wildfire Information Briefing 5 PM EOC Update</p> <ul style="list-style-type: none"> • Structure loss and how to learn about your property or to connect with us • Preparing for re-entry safety messages • Emergency order downgrades to come • Changes to Evacuation Orders and Alerts • Barge access and Whitehead Boat Launch • Weather and fire conditions • ESS • Appliance disposal • Prescription deliveries • Donations/Fundraisers <p>Story: Business community backs fire effort</p> <p><u>September 4</u> Structure loss access deadline. If you have structure loss, email us to provide information about the opportunity to drive to visit your property and view privately. Reply by 4 PM today.</p> <p>Visits: Tuesday, Sept. 5 (Celista) Wednesday, Sept. 6 (Lee Creek/Scotch Creek)</p> <p>Wildfire Update (video)</p>
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September 4 continued

Evacuation Order Changes to come on September 6:

- 2 PM Downgrade to Celistia/Magna Bay
- 4 PM Downgrade to Scotch Creek and Lee Creek
- 7 PM Downgrade to Lower East Adams Lake and Tsutswecw Park
- Water quality advisory

7 PM EOC Update

- Preparing for re-entry. Safety and re-entry guide
- Emergency downgrade orders to come
- Structure loss update: 170 Total structure loss; 50 partial structure loss
- ESS
- Appliance Disposal
- Donations

Story: The Salvation Army in Salmon Arm is inviting residents to offer their words of thanks

September 5

- Holding Road Access only available between 7 PM to 7AM for BC Hydro crews to work
- Re-entry video update
- Updated structure loss summary for North Shuswap area: 176 total structure loss; 50 partial damage
- Scotch Creek Transfer Station will reopen Sept. 7, 8 AM-2 PM
- Correction to fridge and freezer information

September 6

Re-Entry

- Times for re-entry
- Safety on return
- If using ESS, do not end your accommodations

September 6 continued

- Evacuation Order downgraded to Alert for Celistia and Magna Bay
- Evacuation Order downgraded to Alert for Scotch Creek, Lee Creek
- Evacuation Order downgraded to Alert for Lower East Adams Lake, and Tsutswecw Provincial Park
- Evacuation Order for severely impacted properties is in effect for Celistia and Magna Bay
- Evacuation Order for severely impacted properties in Scotch Creek and Lee Creek (List)
- Evacuation Order for severely impacted properties on Holding Road

September 7

Service changes in the North Shuswap:

- Mail
- Prescription delivery
- Barge service ends
- Landfills and transfer stations

Evacuation Alert rescinded to All Clear for Anglemont

5:30 PM EOC Update

- Wildfire behaviour
- Re-entry activity and safety
- Mail
- Prescription delivery
- Barge end and Whitehead Boat Launch open
- Landfills and transfer stations
- Appliance disposal
- Properties still on Evacuation Order

<p><u>September 8</u> EOC Update</p> <ul style="list-style-type: none"> • Accessing information, important numbers • Update on fire behaviour • Re-entry activity • Resiliency Centre open • Safety hazards • Boil Water Advisories • Properties still on order • Structure loss • ESS/Resiliency Centre • Donations/Fundraisers • Community outreach at Sorrento and Salmon Arm Farmers Markets tomorrow <p><u>September 11</u> Resiliency Centre open in Salmon Arm at Fairfield Inn and Suites</p> <p><u>September 12</u> Boil Water Notice for Saratoga Water System rescinded</p> <p><u>September 13</u> Boil Water Advisory for Cottonwoods Water System rescinded 4:30 PM EOC update</p> <ul style="list-style-type: none"> • Recovershuswap.ca • Resiliency Centre • Holding Road open • Community outreach this weekend at Sorrento Farmers Market on Sept. 16. • Trail Closures: Mt. Baldy, Scotch Creek Hlina Trail, and trails behind Farrell's Field • Accessing information • Update on fire behaviour • Safety hazards • Boil Water Advisories • Properties still on Evacuation Order • Donations/Fundraisers 	<p>Story: Wedding goes off without a hitch despite wildfire worries</p> <p><u>September 14</u> Temporary water service outage for Anglemont on Sept. 15 Wildfire Information Briefing</p> <p><u>September 15</u></p> <ul style="list-style-type: none"> • BCWS working on smoky hot spots within the fire perimeter • Building permits restricted pending wildfire geotechnical assessments <p>5:30 PM EOC update</p> <ul style="list-style-type: none"> • Prioritizing debris clean up on and around properties before the snow • Update on fire behaviour • Recovery activity • Resiliency Centre/ESS • Community outreach in Sorrento • Landfills and Transfer stations • Safety hazards • Boil Water Advisories • Properties still on Evacuation Order • Donations/Fundraisers <p><u>September 16</u></p> <ul style="list-style-type: none"> • CSRD adds weight to call for third party wildfire review • Bush Creek East wildfire flare up expected for the next few days <p><u>September 17</u> Story: Farmer, volunteer partner up to get fresh corn to the North Shuswap</p> <p><u>September 18</u> Structure fire on Bastion Mountain contained by CSRD firefighters</p> <p><u>September 19</u> Story: Fighting to protect Sorrento</p>
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<p><u>September 20</u></p> <ul style="list-style-type: none"> • Temporary water service outage for Falkland on Sept. 21 <p>4:30 EOC Update</p> <ul style="list-style-type: none"> • Recovery website is live. Check regularly. • Prioritizing debris clean up • Update on fire behaviour. Bush Creek East wildfire is 45,613ha • Building permit restrictions • Garbage disposal • Appliance disposal • Resiliency Centre and ESS • Community outreach: Look for Information Team members in North Shuswap this weekend <p><u>September 21</u></p> <p>Story: Delivering appreciation for CSRD firefighters</p> <p><u>September 22</u></p> <p>3 PM EOC Update</p> <ul style="list-style-type: none"> • Share with us: Information Officers visited Celista yesterday to talk to residents, answer questions and offer recovery resources. Will be at the Sorrento Market and the Scotch Creek Hub on Saturday, Sept. 23 • Update on fire behaviour • Appliance disposal at Ross Creek Store will end at the end of day today. • Debris clean up • Building permit restrictions • Resiliency Centre and ESS • Accessing Information • Safety Hazards • Properties still on order • Donations/Fundraisers 	<p><u>September 23</u></p> <p>Evacuation Alerts issued by the CSRD due to the wildfire burning in Electoral Areas F and G have been rescinded to All Clear, except for properties severely impacted by wildfire and sustained structure loss.</p>
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SHUSWAP EMERGENCY PROGRAM EXECUTIVE COMMITTEE REPORT

TO: Chair and Committee Members

SUBJECT: CSRD Wildfire Recovery Management

DESCRIPTION: Report from Derek Sutherland, Team Leader Protective Services, dated Sept 28, 2023.

BACKGROUND:

The CSRD Emergency Operations Center (EOC) has been activated and is currently in emergency response mode dealing with the wildfires that are affecting thousands of residents, hundreds of homes, and primary infrastructure. An advanced planning team recommended to the EOC on the initial recovery plan, that the CSRD begin looking past response mode to community recovery and the provision of support for support to complete numerous mid- and long-term recovery projects.

Colliers Project Leaders – Community Recovery Management Services has been engaged by the CSRD to provide recovery planning, task execution and project management services to assist in facilitating community recovery, as CSRD staff return to regular operations the EOC demobilizes and prepares for future activations.

NEXT STEPS:

Colliers Project Leaders – Recovery Management Services, has begun development of a dynamic governance structure that will be used to provide decision support recommendations based on validated information, financial and other asset deployment when needed to address un-met needs, and meetings are action-based and documented using project management methodologies for accountability. Engagement activities will be used to provide regular updates on the progress of recovery projects and solicit community and stakeholder involvement as CSRD deems appropriate. Updates will be provided to SEP on a regular scheduled basis as project progress or additional directions and decision support is required.



SHUSWAP EMERGENCY PROGRAM EXECUTIVE COMMITTEE REPORT

TO: Chair and Committee Members

SUBJECT: Shuswap Emergency Program Communications

DESCRIPTION: Report from Tracy Hughes, Communications Coordinator, dated September 28, 2023.

BACKGROUND:

Communications has been a significant, and challenging, part of the Shuswap Emergency Program's efforts since the April 2023 meeting. This report will provide a snapshot of a few of the ongoing communications efforts, and touch on the efforts involving the Bush Creek East wildfire.

Alertable

Alertable, the CSRD's mass notification system, continues to be successfully employed in emergency situations. Use of Alertable at the CSRD is limited to issues that involve public health and safety, rather than routine notifications. Use greatly increased during the summer wildfire season.

- On June 1, 2023, there were 14,947 Alertable subscribers.
- On September 26, 2023, there were 28,041 Alertable subscribers.
- At its peak in August, there were 28,395 subscribers.

We generally see some drop-off in numbers once seasonal residents leave for the season. Between January 1, 2023 and September 26, 2023, a total of 554,814 notifications were sent via the app, text, email, landline phone, and smart speaker. So far in 2023, the CSRD sent 16 Critical-level Notifications and 62 Advisory-level Notifications. These ranged from Evacuation Orders to Boil Water Notices to Water Conservation Notices.

Alertable investigated some complaints received during the emergency with people not getting notifications. In general, this turned out to be the result of user error, particularly with individuals not signing up their locations properly. This step must be done by the user and can not be done by the CSRD. Future steps for Alertable promotion will need to include additional opportunities for educating users about how the system works and how to set it up to suit their needs.

Communication Themes

There has been ongoing work on a variety of topics to educate the public including social media posts, website information and press releases. These include:

- FireSmart
- Emergency Preparedness
- Alertable
- Evacuation Planning
- Seasonal preparation

Work on these projects is limited by capacity as SEP communications is only one part of the Communication Coordinator's duties.

Wildfire Communications

We are beginning the process of reviewing the extensive communications efforts during the Lower East Adams Lake wildfire, later re-named the Bush Creek East wildfire. This will need time to analyze and digest recommendations and best practices. These will be incorporated into a revised SEP Communications Plan, which was being worked on prior to this summer's wildfires.

NEXT STEPS:

- Further debrief of EOC events and work on revising and updating the SEP Communications Plan.
- Follow up on the effectiveness of Alertable and other communications tools during the emergency.
- Follow up on community outreach efforts that followed re-entry of residents into their communities.



SHUSWAP EMERGENCY PROGRAM EXECUTIVE COMMITTEE REPORT

TO: Chair and Committee Members

SUBJECT: Wiseman Creek Debris Flow Risk

DESCRIPTION: Report from Tom Hansen, Emergency Program Coordinator, dated Sept 25, 2023.

BACKGROUND:

Wiseman Creek was identified as posing a debris flow or debris flood risk to residents of the Sicamous Mobile Home Park due to the large Sicamous Creek wildfire in 2021 that removed much of the vegetation that helps stabilize the soil.

BGC Engineering has been monitoring the weather and debris flow risk for Wiseman Creek continuously since April 1, 2022. Initiation thresholds were adjusted for 2023 based on data and experience from 2022. There have been no reported exceedances of post-fire debris-flow initiation thresholds in 2023. This is likely due to the record drought year we have experienced with very little rainfall.

A field review of the site by BGC is planned before winter to determine if enough vegetation regeneration has occurred to stabilize the soil and reduce the risk to residents. The current monitoring process may no longer be required.

NEXT STEPS:

SEP staff will follow up with BGC and the province to confirm next steps when the BGC update has been received. An update will be shared with the SEP Executive Committee when more is known.



100 – 1383 McGill Road, Kamloops, BC V2C 6K7
www.westrekgeotech.com

TECHNICAL MEMORANDUM

Date: May 31, 2023

To: Derek Sutherland
Columbia Shuswap Regional District

Re: **Report on May 12, 2023 Monitoring
Newsome Creek Erosion below Highway 1, Sorrento, BC**

1 Introduction and Scope

As requested on May 12, 2023 by the Columbia Shuswap Regional District (CSRD), Westrek Geotechnical Services Ltd. (Westrek) carried out a field review to record changes to the Newsome Creek gully below Highway 1. The review was requested after the CSRD was notified of recent erosion in the gully by the owner of 2809 Caen Road. The objective of the review was to evaluate recent changes in the gully sidewall stability and determine if any affected properties required evacuation.

The fieldwork was conducted on May 12, 2023 by Kevin Turner PEng, who represented Westrek. Preliminary results were verbally communicated to the CSRD via phone on the same day. This report contains our findings and recommendations and is subject to the terms and conditions set out in the *Interpretation and Use of Study and Report and Limitations*, which is attached in Appendix A and incorporated by reference.

2 Monitoring Program Overview

Erosion within the Newsome Creek gully below Highway 1 was first reported to the CSRD in 2017. An emergency site assessment was completed by Kerr Wood Leidal (KWL) in 2017, who issued a summary report on May 20, 2017. Westrek carried out a follow up assessment in 2018 and issued a summary report with risk mitigation recommendations on October 6, 2018.

During these initial assessments, significant erosion of the gully sidewall slopes was noted at or immediately downslope of the following properties (Figure 1):

- 1185 Passchendaele Road (including the adjacent highway embankment),
- 2809 Caen Road,
- 2819/2821 Caen Road, and
- 2827 Caen Road.

At these erosion sites, creek channel instability has undercut the toe of the gully sidewall slope, which has exposed thick deposits of layered silt overlying gravel. On-going erosion of the gravel unit has resulted in the formation of a sub-vertical lower slope. This has undermined and destabilized the silt unit, and consequential shallow landslides, sloughing, and/or ravelling have caused the crest of the gully to regress locally. Figure 2 shows the typical gully cross section and erosional processes at these sites.

In a public meeting in 2019, KWL presented several options that could be considered for stabilization of the gully. In that meeting, a Ministry of Transportation and Infrastructure official indicated that the culvert in Highway 1 was scheduled for replacement. This has not yet occurred/ Due to the hazard associated with toppling trees, several trees in the gully were flagged for removal, but the removal program was never implemented.

Following this meeting, the CSRD directed Westrek set up a monitoring program to detect gully changes until stabilization options could be implemented. A total of 22 monitoring sites were established along the creek (Figure 1) to enable repeat photography. Monitoring was carried out five times each in 2019 and 2020, and results were reported to the CSRD on April 15 and September 18, 2019, and February 29 and May 21, 2020. No monitoring was done in 2021 as no issues were reported to the CSRD. The last monitoring trip was completed on April 9, 2022 and was reported to the CSRD on April 29, 2022. That report included comparison photos at each of the 22 monitoring sites.

3 Site Observations

The creek stage was elevated on May 12, 2023 but based on observations, freshet may have peaked a few days earlier. The following summarizes the site conditions and compares them with those observed on April 9, 2022. See Figure 1 for the sites or addresses referenced below.

1. Minor retrogression of the erosion scarp near the culvert outlet was noted at the toe of the Highway 1 embankment (i.e., Site #0). Between Site #0 and #1, at least one tree and possibly another previously topped tree fell from the crest of the sub-vertical gully slope on the 1185 Passchendaele Road property. A modest mass of material has fallen from the crest of the gully sidewall (Site #0 photos attached) and added to the already significant debris within the channel. Downstream of this (Site #4), the creek channel has not changed significantly.
2. Below 2809 Caen Road, a root wad at the base of the gully previously directed the creek channel into the sidewall slope and created the erosion site. Material that had accumulated at the toe of the sub-vertical lower slope has now eroded and the creek is once again positioned immediately at the toe (Site #5 photos attached). The upper edge of the sub-vertical scarp has not changed significantly since last year (Site #6 photos attached), but its upstream edge has migrated a little farther upstream. There were no visible signs of sliding or sloughing in the steep slope of the upper silt unit. Groundwater seepage that was noted in the past was absent. No signs of slope deformation at the crest were reported by the owner or observed by Westrek.

3. At the 2819/2821 Caen Road erosion site, material that had accumulated at the toe of the lower sub-vertical slope has eroded and the creek is once again positioned immediately at the toe (Site #8 and Site #10 photos attached). A shallow, translational slide has recently occurred at the crest of the slope near the 2819/2821 shared property line, where slope deformation was previously observed and reported by Westrek in 2022. At least three trees and other shrubs were entrained by this slide. The crest of the gully is now within 1.5 m of an ancillary building (the shop) on the property at 2819 Caen Road. Roof drains from the shop remain in place and continue to discharge into the erosion feature.
4. Little change was noted in the channel between the 2821 and 2827 Caen Road properties, although some additional deepening in places may have occurred where the creek plunges over buried logs or boulders in the channel.
5. At the 2827 Caen Road erosion site, debris that accumulated at the toe of the sub-vertical slope has been eroded and the creek is currently re-positioned at the slope toe (Site #18 photos attached). The size of the feature has not changed significantly since 2022.
6. At the site downstream of 2829 Caen Road (i.e., downstream of Site #20), some additional raveling of the gully sidewall was observed on the downstream edge of the erosion feature. At this location, the creek is actively eroding the toe of the gully sidewall, which is causing the exposed surficial deposits to ravel into the creek. This feature does not currently threaten any buildings or other assets.

4 Conclusions and Recommendations

The following summarizes the results and recommendations from the recent monitoring trip.

- Gradual erosion of the toe of the highway embankment continues near the plunge pool of the culvert. The Ministry of Transportation and Infrastructure should be advised of this so that they can undertake their own review.
- More trees and debris have fallen from the crest of the slope along 1185 Passchendaele Road. The owner of this property should remain vigilant about the significant public safety hazard associated with the slope at this erosion site, and the on-going risk it poses to the access road and the hotel in the future. The owner should consider installing a fence along the road to restrict access to the erosion scarp by staff, patrons, or visitors.
- Although there has been some upstream migration of the edge of the erosion feature at the 2809 Caen Road property, no sloughing of the upper steep, silt slope or deformation at the crest was noted. Based on this, evacuation of the residence is not considered necessary at this time; however, the owner should monitor the crest and upper slope and notify the CSRD if any changes are observed.
- At 2819 Caen Road, the recent slope failure has further reduced the distance between the slope crest and the shop. The owner should cease use of this space and install barricades to prevent unintended occupancy. The roof drains continue to discharge directly into the erosion feature, which could increase erosion of the upper silt unit and cause crest

regression. The owner should attach flexible pipes to deliver the flow to the toe of the slope or otherwise change the runoff drainage method.

- At each of the erosion sites at 2809, 2819/2821, and 2827 Caen Road, the creek is now re-positioned immediately at the toe of the slope and undercutting of the lower gravel unit is likely to lead to an enlargement of the erosional features, which will likely result in further regression of the gully sidewall crest. The owners of all properties along the gully must continue to be vigilant and monitor the gully sidewalls for changes in erosion rates, slope failures, or deformation at the slope crest. Slopes may fail without warning, and if any person within or near such an event could be severely injured or killed. The crest of the slope immediately above any of the erosion features should be strictly avoided and the surrounding areas delineated for safety. Additional tree toppling could occur along the gully, especially adjacent to undercut banks. Any changes noted should be reported to the CSRD so that another review can be done.
- There are now many dead trees in the gully, either dead-and-standing or those that have fallen across or into the gully. The dead trees have dried out and this has created a significant fire hazard. This hazard should also be considered by all stakeholders.

Many of the properties along Caen Road have assets near the crest of the gully sidewall. Since established, Westrek's monitoring program has served to provide the CSRD and the owners with the progress of erosion at these sites, so that short-term risk mitigation measures could be implemented if conditions reached a critical point. Without permanent gully stabilization measures, erosion processes are expected to continue and conditions along the crest will worsen until a flatter, more stable gully sidewall slope angle develops. Even with this or with permanent stabilization measures, some of the structures will remain at some level of risk due to their proximity to the crest.

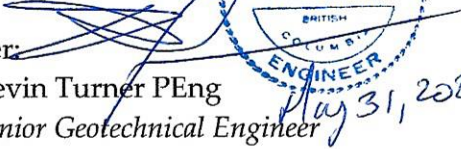

Conversations with some of the affected residents indicate that attempts to obtain funding for gully stabilization have been unsuccessful (this information was not verified by Westrek). Unless other government program(s) can be utilized and stabilization measures implemented in the next few months, all the property owners along the reach below Highway 1 should implement the risk mitigation recommendations outlined in Westrek's October 6, 2018 report, i.e., relocate their assets back from the crest of the gully sidewall. Implementation of this will take some time, so planning of this should begin immediately for structures that are occupied as residences or for commerce, to minimize the risk to the buildings, assets, and the safety of the occupants.

5 Closure

If there are any questions concerning this report or if you require further information, please do not hesitate to contact the undersigned.

Westrek Geotechnical Services Ltd.

This is an electronic replica of the original signed and sealed report and has been provided for convenience. Westrek has retained the original signed / sealed report on file and can provide an authenticated document if required.

Per:  
Kevin Turner PEng
Senior Geotechnical Engineer

Reviewed:
Leslie Muir MEng PGeo
Geoscientist

Permit to Practice No. 1002522

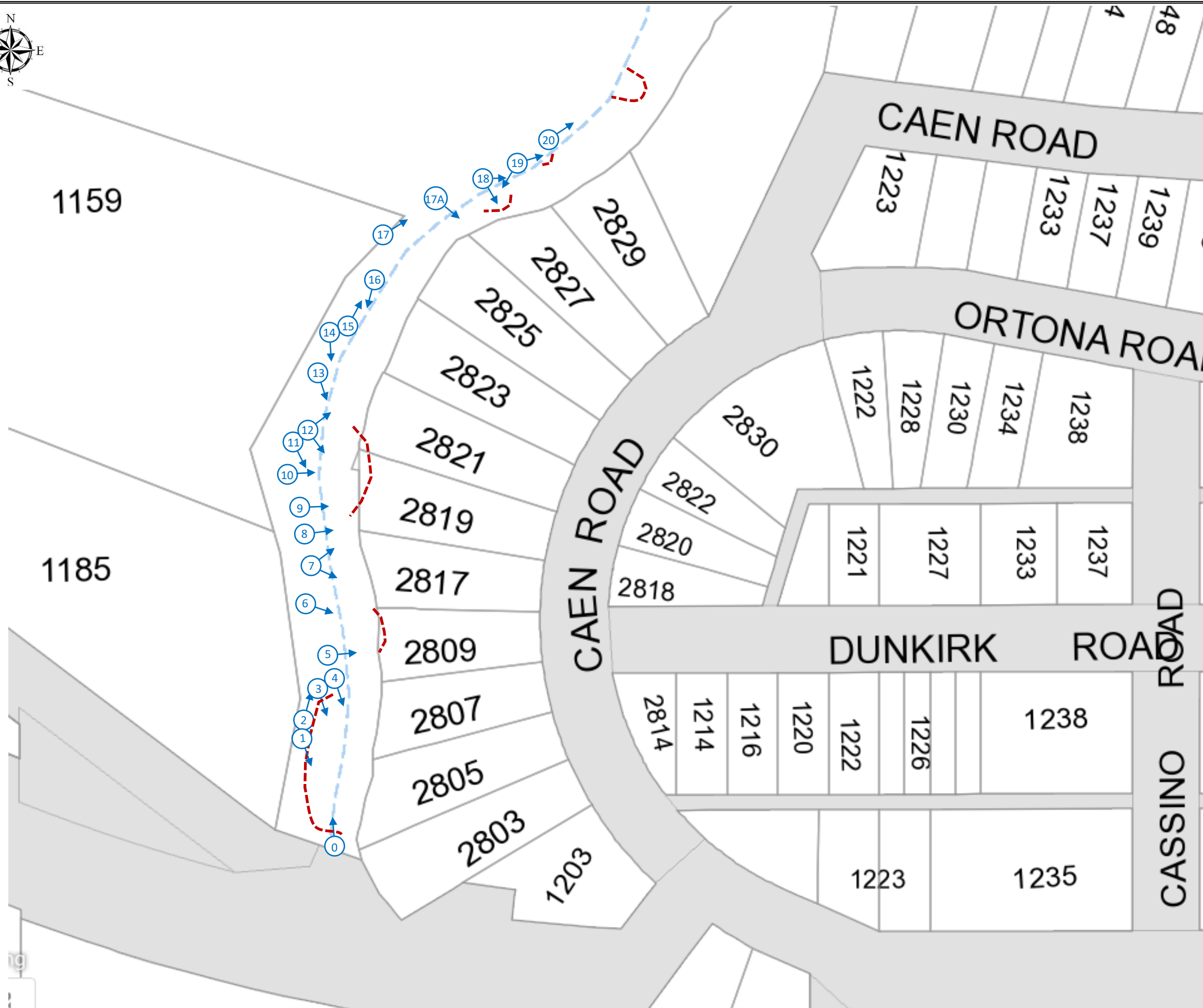
Attached:

Figure 1 – Site Map

Figure 2 – Typical Gully Cross Section and Processes

Photos for Sites #0, 5, 6, 8, 10, and 18

Appendix A *Interpretation and Use of Study and Report and Limitations*



LEGEND:



Photo Site, Number and View Direction(s)



Approximate creek location



Approximate location of significant erosion sites (i.e., gully sidewall block failures, undercutting and sloughing)

NOTE:

This site map is provided for illustration purposes only. The location of the creek, the photos sites, and the erosion features are approximate only and have not been legally surveyed.

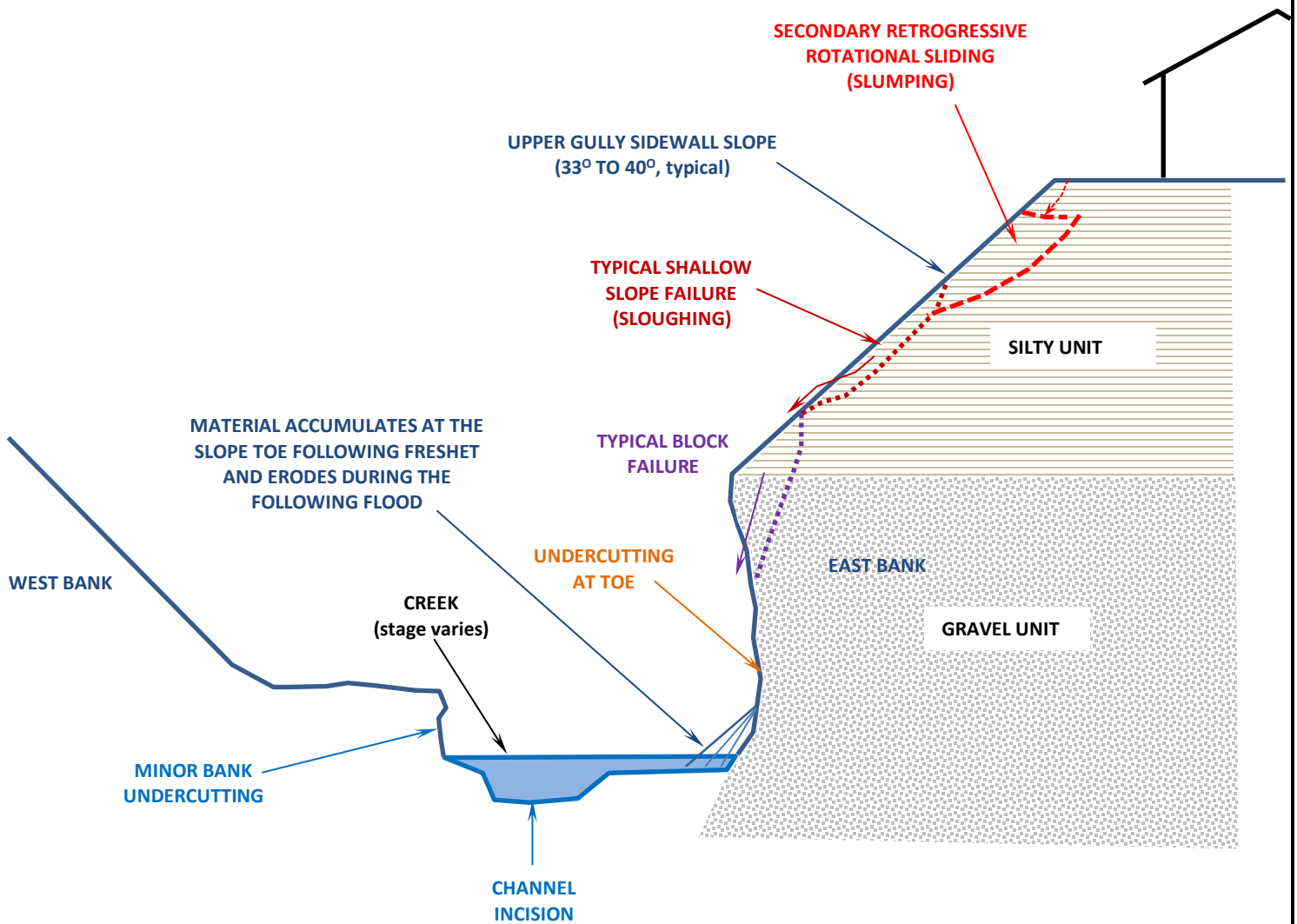


westrek
geotechnical services ltd.

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FIGURE 1

**TYPICAL GULLY CROSS SECTION AT SIGNIFICANT EROSION ALONG CAEN ROAD
(VIEW DOWNSTREAM)**



NOTE:
THIS FIGURE IS A SCHEMATIC OF THE TYPICAL CONDITIONS ALONG NEWSOME CREEK BELOW HIGHWAY 1, LOOKING DOWNSTREAM.
THE GULLY HAS NOT BEEN SURVEYED AND THE GEOLOGICAL UNITS SHOWN ARE SIMPLIFIED FOR ILLUSTRATION PURPOSES ONLY.



2022-04-09



NOTABLE CHANGES:
Another tree (yellow arrow) and a section of the crest (white oval) slid into the channel, adding to debris already present.

2023-05-12

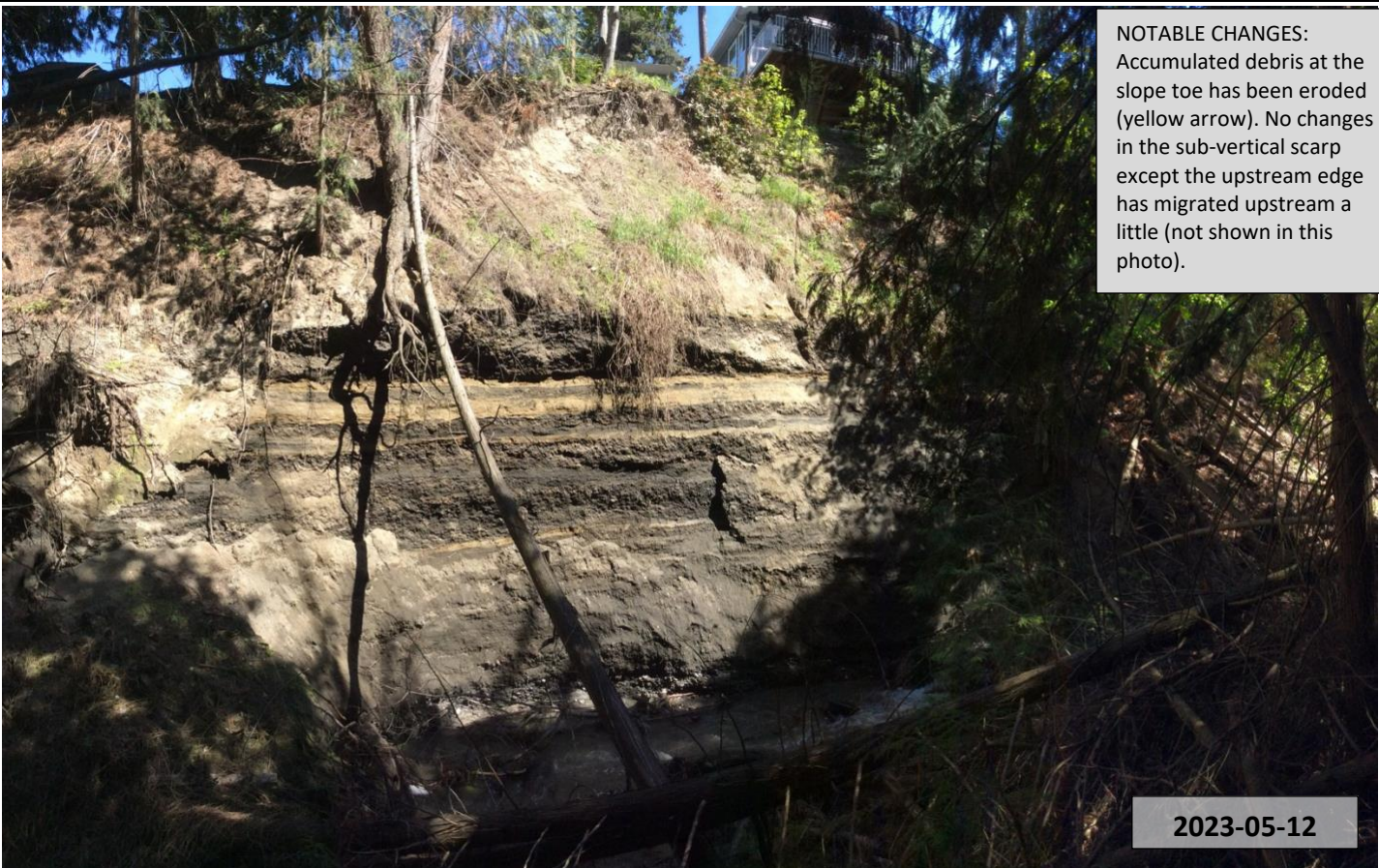


2022-04-09



NOTABLE CHANGES:
Accumulation of debris in undercut area has been eroded.
See also Site #6.

2023-05-12



NOTABLE CHANGES:
Accumulated debris at the slope toe has been eroded (yellow arrow). No changes in the sub-vertical scarp except the upstream edge has migrated upstream a little (not shown in this photo).

NOTABLE CHANGES:
Slump in surficial deposits noted in 2022 (yellow arrow) has failed, causing the loss of some trees at the crest (white arrows).



2022-04-09



2023-05-12



**MONITORING PROGRAM
NEWSOME CREEK BELOW HIGHWAY 1**

Project No:
018-073

SITE #8



2022-04-09



NOTABLE CHANGES:
Accumulated debris at slope toe has eroded. Very minor migration of edge downstream (yellow arrow).

2023-05-12



**MONITORING PROGRAM
NEWSOME CREEK BELOW HIGHWAY 1**

Project No:
018-073

**SITE #10
ACROSS**



2022-04-09



NOTABLE CHANGES:
Accumulated debris has eroded, but no significant regression of the crest.

2023-05-12

APPENDIX A

INTERPRETATION AND USE OF STUDY AND REPORT AND LIMITATIONS

1. STANDARD OF CARE.

This study and Report have been prepared in accordance with generally accepted engineering and geoscience practices. No other warranty, express or implied, is made. Geological and geotechnical studies and reports do not include environmental consulting unless specifically stated in the report.

2. COMPLETE REPORT.

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report which is of a summary nature and is not intended to stand alone without reference to the instructions given to us by the Client, communications between us and the Client, and to any other reports, writings, proposals or documents prepared by us for the Client relative to the specific site described herein, all of which constitute the Report.

IN ORDER TO UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. WE CANNOT BE RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

3. BASIS OF THE REPORT.

The Report has been prepared for the specific site, development, design objectives and purpose that were described to us by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the document are only valid to the extent that there has been no material alteration to or variation from any of the said descriptions provided to us unless we are specifically requested by the Client to review and revise the Report in light of such alteration or variation.

4. USE OF THE REPORT.

The information and opinions expressed in the Report, or any document forming the Report, are for the sole benefit of the Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT OUR WRITTEN CONSENT. WE WILL CONSENT TO ANY REASONABLE REQUEST BY THE CLIENT TO APPROVE THE USE OF THIS REPORT BY OTHER PARTIES AS "APPROVED USERS". The contents of the Report remain our copyright property and we authorise only the Client and Approved Users to make copies of the Report only in such quantities as are reasonably necessary for the use of the Report by those parties. The Client and Approved Users may not give, lend, sell or otherwise make the Report or any portion thereof, available to any party without our written permission. Any uses, which a third party makes of the Report, or any portion of the Report, are the sole responsibility of such third parties. Westrek accepts no responsibility for damages suffered by any third party resulting from unauthorised use of the Report.

5. INTERPRETATION OF THE REPORT.

- (i) Nature and Exactness of Soil and Description: Classification and identification of soils, rocks, geological units, and engineering estimates have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature and even comprehensive sampling and testing programs, implemented with the appropriate equipment by experienced personnel, may fail to locate some conditions. All investigations utilising the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarising such investigations will be based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated and all persons making use of such documents or records should be aware of, and accept, this risk. Some conditions are subject to change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. Where special concerns exist, or the Client has special considerations or requirements, the Client should disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.
- (ii) Reliance on Provided information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to us. We have relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, we cannot accept responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of misstatements, omissions, misrepresentations or fraudulent acts of any persons providing representations, information and instructions.
- (iii) To avoid misunderstandings, Westrek should be retained to work with the other design professionals to explain relevant geotechnical findings and to review the adequacy of their plans and specifications relative to engineering issues. Further, Westrek should be retained to provide field reviews during the construction, consistent with generally accepted practices.

6. LIMITATIONS OF LIABILITY.

Westrek's liability will be limited as follows:

- (a) In recognition of the relative risks and benefits of the Services to be provided to the Client by Westrek, the risks have been allocated such that the Client agrees, to the fullest extent permitted by law, to limit the liability of Westrek, its officers, directors, partners, employees, shareholders, owners, subconsultants and principals for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, whether arising in contract or tort including negligence, including legal fees and costs and disbursements (the "Claim"), so that the total aggregate liability of Westrek, its officers, directors, partners, employees, shareholders, owners, subconsultants and principals:
- i. if the Claim is satisfied by the re-performance of the Services proven to be in error, shall not exceed and shall be limited to the cost to Westrek in re-performing such Services; or
 - ii. if the Claim cannot be satisfied by the re-performance of the Services and:
 1. if Westrek's professional liability insurance does not apply to the Claim, shall not exceed and shall be limited to Westrek's total fee for services rendered for this matter, whichever is the lesser amount. The Client will indemnify and hold harmless Westrek from third party Claims that exceed such amount; or
 2. if Westrek's professional liability insurance applies to the Claim, shall be limited to the coverage amount available under Westrek's professional liability insurance at the time of the Claim. The Client will indemnify and hold harmless Westrek from third party Claims that exceed such coverage amount. Westrek shall maintain professional liability insurance in the amount of \$2,000,000 per occurrence, \$2,000,000 in the aggregate, for a period of two (2) years from the date of substantial performance of the Services or earlier termination of this Agreement. If the Client wishes to increase the amount of such insurance coverage or duration of such policy or obtain other special or increased insurance coverage, Westrek will cooperate with the Client to obtain such coverage at the Client's expense.

It is intended that this limitation will apply to any and all liability or cause of action however alleged or arising, including negligence, unless otherwise prohibited by law. Notwithstanding the foregoing, it is expressly agreed that there shall be no claim whatsoever against Westrek, its officers, directors, partners, employees, shareholders, owners, subconsultants and principals for loss of income, profit or other consequential damages howsoever arising, including negligence, liability being limited to direct damages.
- (b) Westrek is not responsible for any errors, omissions, mistakes or inaccuracies contained in information provided by the Client, including but not limited to the location of underground or buried services, and with respect to such information, Westrek may rely on it without having to verify or test that information. Further, Westrek is not responsible for any errors or omissions committed by persons, consultants or specialists retained directly by the Client and with respect to any information, documents or opinions provided by such persons, consultants or specialists, Westrek may rely on such information, documents or opinions without having to verify or test the same.
- (c) Notwithstanding the provisions of the Limitation Act, R.S.B.C. 2012 c. 13, amendments thereto, or new legislation enacted in its place, Westrek's liability for any and all claims, including a Claim as defined herein, of the Client or any third party shall absolutely cease to exist after a period of two (2) years following the date of:
- i. Substantial performance of the Services,
 - ii. Suspension or abandonment of the Services provided under this agreement, or
 - iii. Termination of Westrek's Services under the agreement,
- whichever shall occur first, and following such period, the Client shall have no claim, including a Claim as defined herein, whatsoever against Westrek.

STRUCTURES THREATENED BY
WATERCOURSES
PROVINCIAL SUPPORT GUIDELINES

Version 1
October 20, 2014

Multi-Ministry Agreement Statement

These guidelines have been contributed to and reviewed by the Flood Issues Management Group (Flood IMG) members of the Inter-Agency Emergency Preparedness Council (IEPC). The members of the Flood IMG have reviewed and agreed to the procedures and practices described in the guidelines.

These guidelines will be implemented and activated in any situation where a structure is assessed to be at risk of being impacted by any watercourse in the province as part of common emergency management activity in the province.

The use and application of this guideline is not restricted to any particular activity level in the emergency management structure (site, site support, regional support and provincial coordination) and will be referred to at all times by all provincial ministries involved in the emergency response activities in support of the local authority that is leading the emergency response in their jurisdiction.

Table of Contents

MULTI-MINISTRY AGREEMENT STATEMENT.....	3
BACKGROUND	5
PURPOSE	5
AUDIENCE.....	5
ROLES AND RESPONSIBILITIES	6
PROCEDURES	8
I. PRE - EVENT ACTIVITIES.....	9
II. THREAT ALERTING AND ASSESSMENT	10
III. RESPONSIBILITY DETERMINATION	12
IV. ACTIONS	14
V. FOLLOW UP.....	17
APPENDIX A - RELATED LEGISLATION	18
APPENDIX B – SITE REPORT AND RECOMMENDATIONS TEMPLATE.....	19

Background

In many areas across the province structures including houses, are occasionally threatened by watercourses due to increased erosion activity during occurrences of high water flow rates in rivers and creeks. In some instances the structures have been moved or demolished prior to being impacted by, or having fallen into the watercourse. These incidents typically have public safety, environmental, public infrastructure (bridges & roads) and even health (drinking water) implications. In the past local authority and provincial ministry engagements have been inconsistent, and at times, determining the most effective and appropriate response has been challenging. With the common goal being to prevent the structure from entering the watercourse, responders have been challenged by a lack of clarity with respect to the appropriate response procedures, authorities, and roles & responsibilities; including the legislated mandates or obligations of any particular provincial ministry to respond.

Purpose

This purpose of these guidelines is to outline the Province's expectations for prevention, preparation, response and recovery activities in circumstances where structures are threatened by watercourses. The guidelines are intended to provide increased transparency with respect to the respective mandates of the typical responders to the situation; local authorities, provincial government and homeowners. These guidelines are going to be utilised by provincial ministries to support decision making and shared with local authorities to inform them of province's approach. They outline:

- the agency/ministry responsibility for supporting the local authority and coordinating the provincial response;
- what information should be considered to inform decision making and actions; and,
- which response options and procedures are determined to be most appropriate.

Note:

1. It is recognised the impacts of existing land use planning can be a significant contributor to structures threatened by watercourses situation; however it is beyond the scope of these guidelines to address any land use planning issues.
2. These guidelines are also not intended as guidance for general large scale flooding response they are specific to the situation described.
3. These guidelines follow the BCERMS response structure and align with the BC Flood Response Plan.

Audience

These guidelines are intended to provide support and guidance to responding provincial ministries, local authorities and structure owners when considering and planning response actions to structures that may be threatened or being impacted by watercourses.

Roles and Responsibilities

Homeowners: It is the responsibility of homeowners to take any and all reasonable actions in order to mitigate known risks to their property and belongings. Property owners are expected to perform due diligence when purchasing property by verifying appropriate zoning and permitting approvals, and adhering to relevant bylaws put in place by the local authority. In all emergency situations, including structures threatened by watercourses scenarios, homeowners are expected to work closely with their local authority and take all reasonable measures to protect their personal safety and belongings.

Local Authorities: Under the *BC Emergency Program Act* all emergency incident or event activity requirements occurring within their jurisdiction are to be directed and controlled at the site by the local authority. However, as local authorities become overwhelmed, provincial plans and resources will be used to provide escalating support to the local authority.

- The local authority is responsible for consulting and liaising with residents, securing appropriate engineering studies, conducting detailed design, and obtaining permits and approvals. Local authorities have the responsibility for floodplain management activities and land use planning within their jurisdictions. Local authorities are also responsible for activities of emergency management including mitigation, preparation, response and recovery.
- The *Emergency Program Act* (EPA) requires local authorities (municipalities and regional districts) to establish an emergency management organization, to develop emergency plans (addressing preparing for, responding to and recovering from emergencies) and to implement that plan when it is deemed required. The activities contained in a local authority's emergency plan and the decisions to activate the plan are at the local authority's discretion.
- The *BC Flood Response Plan* presumes that local authorities will initiate actions that will undertake primary threat assessments (with the assistance of subject matter experts/contractors if necessary), will activate emergency plans, and will assume site command for all response activities within their jurisdictions.

Other Authorities: in a scenario that is being addressed by these guidelines there may be other authorities that would become involved as required; for example:

- Drinking water purveyor;
- Parks - provincial or federal; and
- Commercial enterprises from the private sector.

Provincial Ministries: The *Emergency Program Management Regulation* details the responsibilities of the provincial government (ministries and crown corporations) for emergency management and describes the requirement for the provincial government to provide support to the local authorities if overwhelmed in responding to, and recovering from, an emergency. The resources and expertise available from some of the provincial ministries is summarized below:

- **Ministry of Forest Lands and Natural Resource Operations (FLNRO) (Water Stewardship):** Primary role is to provide technical specialist and professional expertise in hydrology. This includes: providing forecasts of expected changes in river levels, extent of erosion, assessment of potential actions and outcomes of each with respect to at risk building(s), providing engineering or hydro technical assessment of the conditions at the site, anticipated progression of flood or erosion threats to buildings on site and possible actions which may be taken with respect to the individual structures at risk. Related activities may include assistance in assessing potential consequences of the structure in question ending up in the watercourse.
- **Ministry of Transportation and Infrastructure (MoTI):** Primary role is the protection of provincial public transportation infrastructure. This includes: staging of staff and equipment, provide subject matter experts, performing mitigative works, and acting as incident command at site when addressing the protection of provincial transportation infrastructure in their provincial right of way jurisdictions.
- **Ministry of Environment (MOE):** Primary role is the protection of the environment and public health safety. This can include: assessing the threat of pollution to the environment and public safety (when a threat of pollution is identified or brought to MOE attention), provision of Environmental Emergency Response Officer (EERO) inspection reports, issuing orders to comply with legislation, and spill site activities (incident or unified command) to address environmental emergencies.
- **Ministry of Health (MOH) (Regional Health Authorities):** Primary role is the protection of public health through drinking water assessment. This includes: acting to prevent threats to public drinking water from pollution entering or contaminating rivers or drinking water sources, issue orders to comply with legislation to correct the threat and/or cause corrective action to be taken at the water purveyor's (owner's) expense.
- **Ministry of Justice (JAG) (Emergency Management BC - EMBC):** Primary role is to lead the collaboration and coordination amongst all provincial ministries in the provision of support to the local authority to assure public safety. This includes: hosting coordination calls with stakeholders, collecting situational information, engaging subject matter experts and ministry contacts, and assisting in the determination of the risk to public safety. Support response actions to emergencies that can include: expenditure approval for consultative reports, hosting coordination calls, reviewing expense authorisation requests (EAF's), locating and/or providing extraordinary resources, providing for Emergency Social Services and related supports including storage of people's chattels.

Procedures

This section outlines a recommended sequence of actions to be followed when the threat of a structure being overtaken by a watercourse has been identified. This includes determination of the extent of the threat, predicted impact assessment, identification of provincial ministry support to local authority and a decision making process for determining the most appropriate action. The table below outlines a recommended sequence of actions from pre-event (where possible) to completion of any chosen response action.

<p>i. Pre-Event</p>	<ul style="list-style-type: none"> ○ Local Authorities develop inventory of structures at known risk ○ Homeowners understand responsibility for monitoring and mitigating ○ Provincial government provides as much information as is available to assist in the mitigation of any hazards
<p>ii. Threat Alerting and Assessment</p>	<ul style="list-style-type: none"> ○ Urgency based on predictive indicators (weather etc.) ○ Reports of threat to structures from homeowner or local authority ○ Physical indicators (river flow gauges, weather forecasts) ○ Multi agency site team assessment
<p>iii. Responsibility Determination</p>	<ul style="list-style-type: none"> ○ Site situation information and impact assessment ○ Ministry roles and involvement determination
<p>iv. Action</p>	<ul style="list-style-type: none"> ○ Incident specific considerations ○ Response option selection ○ Associated actions
<p>v. Follow-Up</p>	<ul style="list-style-type: none"> ○ Site cleanup, including bank cleanup downstream; ○ Local authority – covenant on land/rezoning; ○ Consideration of Disaster Financial Assistance; and, ○ Emergency Social Services extension– as/when needed.

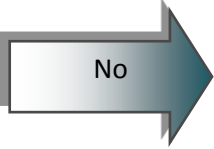

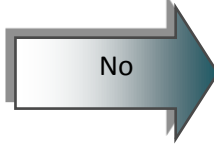
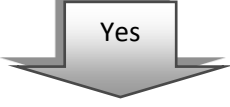
i. Pre - Event Activities

This section provides greater detail on activities that could be conducted by homeowners, local authorities and provincial ministries before an event becomes imminent and when mitigation measures may still be possible.

- **Homeowners** – that have become aware that their homes and other buildings may be threatened due to changes in any water course conditions (erosion, high stream flows, flooding) should contact the local authority and jointly work to determine what information needs to be collected (engineering reports, hydrological assessments, etc.) and what measures might be taken to mitigate potential impacts.
- **Local Authorities** – are often aware of “at risk” areas of their jurisdiction long before an incident even occurs. It is the expectation of the province that they maintain an inventory of these areas and:
 - establish appropriate emergency plans to respond;
 - work with owners to monitor and mitigate potential emergency situations where possible;
 - maintain a safe evacuation plan and communications strategy; and,
 - share this information with regional EMBC staff in order to help inform advance planning.
- **Ministries** – will continue to encourage local authorities and homeowners to take preventative action on areas that are known to be at any risk.
 - EMBC will continue to conduct seasonal readiness sessions and discussions with local authorities and all other emergency management stakeholders. These sessions will reinforce the need for local authorities, and homeowners, to be proactive in planning for and addressing structures potentially threatened by watercourse behaviours.
- **Provincially Directed Actions/Orders:** Advance notice of a structure presenting a threat of a hazard to health, public safety, environment or public transportation infrastructure may come to the attention of officers of EMBC, MOH/RHA, MOE or MOTI. In these circumstances, these officers may be obliged to make and issue orders to the local authority or homeowner to take remedial action. If not attended to, the province may perform the required action and bill the local authority or homeowner if not addressed.

ii. Threat Alerting and Assessment

The steps to be taken when a threat of a watercourse to a structure has been identified and an assessment of the risk is to be completed are described below. Reports of a structure threatened by a watercourse can be received from a number of sources. These include: the homeowner, local authority, local media sources, and regional ministry staff from EMBC, FLNRO, MOE, or MOTI. This section should assist local authorities and provincial government responders to define the extent of the emergency and what action may be needed.

THREAT ASSESSMENT		ACTION
<ul style="list-style-type: none"> Do indicators (unstable bank/undercutting) suggest that the structure will be threatened by the watercourse in the near future? Does it appear that bank erosion will continue until impacting on structure? 		<ul style="list-style-type: none"> No response needed Suggest local authority add to inventory of potentially at risk structures Communications message – no response needed
		
<p>Does the threat of an emergency appear imminent?</p> <ul style="list-style-type: none"> Rapid engineering assessment indicates imminent threat? Indicators suggest (water rising, high rate of erosion, watercourse approaching structure) that the structure may be swept into watercourse within the near future? 		<ul style="list-style-type: none"> No immediate response Continue to monitor in connection with local authority Communications message – no immediate action needed but caution added to the site
		
<p>Potential for Multi-Agency site analysis team to be deployed to assist in assessment of site and prepare Site Situation Report which includes the potential consequences of the structure actually being impacted by the watercourse and assists in determining any actions needed.</p>		

Site Situation Assessment

Regardless of the source if the determination is made (see table above) that there is a potential threat, the Site Situation Assessment (tables following) can be utilized to identify the required stakeholders and then in conjunction with relevant ministry policies and checklists better determine the nature of the threat. The table below outlines the type of impact that would likely occur should the structure actually fall into the watercourse and relates these impacts to a provincial ministry role/mandate.

SITE SITUATION ASSESSMENT		
CONSIDERATIONS	TYPE OF IMPACT	MINISTRY ROLE
<ul style="list-style-type: none"> Dams, dikes, past mitigation work upstream or downstream? 	Downstream Impact	FLNRO Water Stewardship <ul style="list-style-type: none"> Stream flow trends and predictions
<ul style="list-style-type: none"> Would material in the house or property (septic, oil, insulation, asbestos, paint, etc) present a risk to the environment? 	Public Health and Environmental Impact	MOE + RHA <ul style="list-style-type: none"> Environmental Pollution (MOE - EERO) Medical Health Officer
<ul style="list-style-type: none"> Will house debris/contents need to be cleaned off of river banks? What is the severity of the potential pollution? Would impacts alter the usefulness of the environment? 	Cleanup of debris in and around watercourse	MOE <ul style="list-style-type: none"> Environmental Pollution (MOE - EERO)
<ul style="list-style-type: none"> Is there public transportation infrastructure (bridges/roads) downstream that may be damaged by debris? 	Public Transportation Infrastructure Impact	MoTI
<ul style="list-style-type: none"> Would building material floating downstream present a public safety risk (boaters, swimmers, etc) downstream? 	Public Safety Impact	Local Authority And EMBC
<ul style="list-style-type: none"> Would building material floating downstream present a Public Health risk (physically or chemically - drinking water inlet downstream?) 	Public Health (Drinking Water) Impact	Regional Health Authority <ul style="list-style-type: none"> Medical Health Officer

ADDITIONAL IMPACT INFORMATION	
<ul style="list-style-type: none"> Number of structures at risk Type of structure (vacant, primary residence, seasonal residence, commercial) 	<ul style="list-style-type: none"> Identify the number and size of houses at risk Empty garage, barn, outbuilding vs. home with oil tanks, septic etc.
<ul style="list-style-type: none"> Watercourse behaviour 	<ul style="list-style-type: none"> Short term high-water/erosion event or longer term, significant river movement? Is river flow/volume projected to rise, continue, or decrease?
<ul style="list-style-type: none"> Values at risk downstream (fishing lodge, swimming holes, riverside business, critical infrastructure, etc. 	<ul style="list-style-type: none"> Asses the value at risk
<ul style="list-style-type: none"> Timeframe 	<ul style="list-style-type: none"> How imminent is the structure to falling in the watercourse?

SITE HISTORY INFORMATION

- Has Disaster Financial Assistance (EMBC) been received in the past? If so, how many times?
- Has the property received the appropriate building permit (local authority)?
- Has mitigation work been conducted or attempted by homeowner or local authority in the past?

iii. Responsibility Determination

If no clear provincial ministry or agency lead can be identified from the site situation assessment, and/or the local authority is unsure of next steps, overwhelmed, and/or not engaged, then appropriate ministries and agencies should be directed to build a **Multi- agency site team** (consisting of regional subject matter experts from the Regional Health Authority, FLNRO, MOE, and MOTI) that are deployed to work with the local authority to further assess the threat type, potential impacts and courses of action to be taken.

The information below will be considered by the Multi-agency site team to aid in the identification of the provincial ministry whose mandate is most related to the threat of the structure falling into the watercourse, and upon whose legislation action may have to be taken. Other ministries with associated or supportive mandates and expertise will assist as appropriate.

RESPONSIBILITY ASSESSMENT

TYPE OF IMPACT	CONSIDERATIONS	LEGISLATIVE TRIGGER	MINISTRY	POTENTIAL ACTIONS
Downstream Impact	Dams, dikes, past mitigative work upstream or downstream?	<i>Emergency Program Management Regulation - Schedule. 1</i>	FLNRO - Water Stewardship	<ul style="list-style-type: none"> Provide stream flow trends and predictions at the site and for the broader area
Environmental Impact	<p>Would material in the structure or property (septic, oil, asbestos, insulation, paint, etc) present a risk to the environment, or need to be cleaned off river banks?</p> <p>What is the severity of the potential pollution? (Would impacts alter the usefulness of the environment?)</p>	<i>Environmental Management Act S.80</i>	MOE	<ul style="list-style-type: none"> If a spill has occurred that may pose a hazard to health or the environment, or that there is an imminent threat of a spill that may pose such a hazard, and action is necessary to address the hazard or threat, the government may carry out actions to assess, monitor, prevent, stabilize, contain, remove, clean up, evacuate person from the area of or otherwise address the perceived hazard or threat.
Public Transportation Infrastructure Impact	Is there provincial infrastructure (bridges/roads) downstream that may be damaged?	<i>Transportation Act S. 8 S. 16 - 23</i>	MoTI	<ul style="list-style-type: none"> Ministry may, do one or more of the following: <ul style="list-style-type: none"> provide, remove or repair access from the land to a provincial public undertaking and, for that purpose, take possession of, use or move anything on the land. may require remedial action to protect a provincial public undertaking
Public Safety Impact	<p>Hazards to person or property</p> <p>Would building material floating downstream present a public safety risk (boaters, swimmers, etc) downstream?</p>	<i>Emergency Program Act S. 7, 8</i>	EMBC	<ul style="list-style-type: none"> The minister or a person designated in a provincial emergency plan may, whether or not a state of emergency has been declared, cause a provincial emergency plan to be implemented if, in the opinion of the minister or the designated person, an emergency exists or appears imminent or a disaster has occurred or threatens. A local authority or a person designated in the local authority's local emergency plan may, whether or not a state of local emergency has been declared, cause the plan to be implemented if, in the opinion of the local authority or the designated person, an emergency exists or appears imminent or a disaster has occurred or threatens
Public Health Impact	Would building material floating downstream present a Public Health risk (physically or chemically - drinking water inlet downstream?)	<i>Public Health Act S.31- 32</i> <i>Drinking Water Protection Act S. 23-26</i>	Regional Health Authority	<ul style="list-style-type: none"> A health officer may order a person to do anything that the health officer reasonably believes is necessary for any of the following purposes: <ul style="list-style-type: none"> to determine whether a health hazard exists; to prevent or stop a health hazard, or mitigate the harm or prevent further harm from a health hazard A health officer may issue an order to the owner or occupier of a place where a health hazard is located

iv. Actions

The Multi agency site team will work with the local authority to complete a single integrated site assessment that includes recommendations on applicable response actions. This will be informed by the options and considerations outlined in the tables following and will be provided to the regional emergency management structure for action (likely the Provincial Regional Emergency Operations Centre (PREOC) or local authorities emergency operations centre (EOC), if activated).

Ultimately the Central Coordination Group (CCG) will have final decision on provincial ministry assigned to lead the situation on behalf of the province.

GENERAL CONSIDERATIONS FOR ALL RESPONSE OPTIONS

The following considerations should be applied to all options below:

- **Site history** (past river bank preventative works, previous events, previous Disaster Financial Assistance received, building permit, etc);
- **Engineering report/river forecasting analysis** on the rate of erosion, potential river bank preventative works effectiveness, downstream impacts and potential upstream causes;
- **Time available** for safe response activity;
- **Capacity** for response – for Local Authority and Provincial ministries (staff, equipment, materials, etc);
- **Size and type of structure and contents** (empty garage vs. home with oil tanks, septic etc.);
- **Risk, Cost/Benefit, Impact vs. other options;**
- **Cleanup expenses** – if structure was to enter watercourse;
- **Legislative triggers & enablers;**
- **Determination of funding mechanism;** and,
- **Homeowner and Local Authority agreement to accept recommended action.**

Response Options and Considerations:

For all response options, whenever possible and following the emergency management structure, the local authority will implement (or contract) the response action and related activities with provincial ministries and agencies in support. If the local authority is unable (or unwilling) to respond and a provincial legislated mandate(s) has been triggered, the lead provincial ministry (as identified earlier) may direct the required response action with technical support from other ministries as required. There are option specific activities that must be conducted by the local authority however, and these are identified below.

RESPONSE OPTIONS	OPTION SPECIFIC CONSIDERATIONS	RESPONSE ACTION & ACTIVITIES
<p>Option 1</p> <p><u>No INTERVENTION</u></p>	<ul style="list-style-type: none"> • General considerations listed • Ministry mandates may not be applicable • Impact level too low – and danger of engaging in any response is too high • Insufficient time available for response • Potential liability if downstream impacts result in personal injury or death 	<ul style="list-style-type: none"> • Secure structure and area, consider evacuation order (if needed) • Monitor in connection provincial agencies • Communicate warnings downstream • If structure enters watercourse, conduct cleanup of debris
<p>Option 2</p> <p><u>IMMEDIATE RIVER BANK PREVENTATIVE WORKS</u></p>	<ul style="list-style-type: none"> • General considerations listed • Potential for environmental damage, and legislative requirements • Existing provincial policy (re: gabions, rip/wrap, in-stream works) can apply • Implementation agreement (who will implement works, costs, etc) • Maintenance agreement (homeowner or Local Authority to maintain) 	<ul style="list-style-type: none"> • Implement In Stream Preventative Works • Local Authority Specific Activity: Implementation/ongoing maintenance agreement (implementation of works, maintenance costs, etc)
<p>Option 3</p> <p><u>MOVE STRUCTURE</u></p>	<ul style="list-style-type: none"> • General considerations listed • Alternate safe, long-term location available (on property supplied by owner) • Homeowner and Local Authority agreement to movement 	<ul style="list-style-type: none"> • Move Structure to a secure location • Local Authority Specific Activity: Detailed Recovery Plan Rezoning/covenant on land to prevent future development or occupation
<p>Option 4</p> <p><u>NEUTRALIZE STRUCTURE/THREAT</u></p>	<ul style="list-style-type: none"> • General considerations listed • Other options not viable due to: equipment access issues, time available for response, prediction that erosion may not be long term, ability to safely engage in other response options (river undercutting a portion of the structure, etc) • Can be used in combination with in stream bank preventative works 	<ul style="list-style-type: none"> • Keep structure intact and disconnect utilities, pump septic, remove personal property (if possible), secure structure and surrounding area • Agreement & implementation with homeowners (and/or) contractor
<p>Option 5</p>	<ul style="list-style-type: none"> • General considerations listed • Can be used in combination with river bank preventative works 	<ul style="list-style-type: none"> • Disconnect utilities, pump septic, remove personal property (if possible), secure structure and

<p><u>DISMANTLE</u> <u>STRUCTURE</u></p>	<ul style="list-style-type: none"> • Other options are not viable due to considerations above including: Risk, Cost/Benefit, response options impact, prediction that erosion will be long term, etc) 	<p>surrounding area</p> <ul style="list-style-type: none"> • Demolish and remove structure from area • Organisation of dismantling of the structure and tipping costs
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GENERAL LOCAL AUTHORITY RESPONSE ROLES

The following general local authority response roles will apply to most response options:

- Communication to homeowner
- Provision of staff and equipment (if possible)
- Acting as site incident command (if possible)
- Executing response option (if possible)
- Declaration of a state of local emergency (if needed) and associated powers (evacuation orders, etc)
- Contact EMBC for issuance of task number
- Activation of EOC for resource support and advanced planning

RCMP/Police/Conservation Officers Services – may be required for tactical evacuations and security services.

Recommendations for Response

Based on the options and considerations above, the lead provincial agency on the Multi agency site team will work with the team and local authority to determine recommendations for response to be provided to the PREOC or EOC. Whenever possible the local authority will implement (or contract) the response action and related activities. Other ministries with applicable mandates and expertise will be identified to assist as appropriate. These recommendations will include the following:

- recommended response activity;
- legislation upon which the response is based;
- local authority role (if engaged) within their Emergency Response Plan;
- financial mechanism - in all cases the financial mechanism will be linked to the legislation upon which the response action is based; and,
- suggested communications messaging.

If ***no provincial responsibility is identified***, there may still be provincial support required to the local authority in planning and actioning response activities, and in key public communication messaging.

Communications Messaging

All communications and public messaging to include the following:

- Summary of situation
- Commitment to public safety/health/environment and support to those impacted
- Agencies involved and roles
- Govt policy/position (high level)
- Specific action to be engaged and why
- Expectations of local authorities and homeowner in houses in watercourses situations

v. Follow Up

Once the response actions are completed there will be follow-up actions required. These may include:

- Site cleanup, including bank cleanup downstream;
- Local authority – covenant on land/rezoning;
- Consideration of Disaster Financial Assistance; and,
- Emergency Social Services extensions – as/when needed.

Appendix A - Related Legislation

Ministry	Related Legislation
EMBC/JAG	<ul style="list-style-type: none"> • <i>Emergency Program Act</i> • <i>Emergency Program Management Regulation</i> • <i>Local Authority Emergency Management Regulation</i> • <i>Compensation and Disaster Financial Assistance Regulation</i>
MOE	<ul style="list-style-type: none"> • <i>Environmental Management Act (Section 80)</i> • <i>Environmental Assessment Impact Regulation</i>
MOH	<ul style="list-style-type: none"> • <i>Public Health Act</i> • <i>Drinking Water Protection Act & Regulations</i>
MOTI	<ul style="list-style-type: none"> • <i>Transportation Act</i>
FLNRO	<ul style="list-style-type: none"> • <i>Water Act (Section 9)</i> • <i>Dike Maintenance Act</i>

Note: that is not an exhaustive listing of all potential legislation that stakeholders may need to refer to in the described scenario. This is exemplary of the more common statutes used.

Appendix B – Site Report and Recommendations Template

Structures Threatened by Watercourses

Site Situation Summary Report

Location Address (name of watercourse): _____ Date: _____

Description of Structure(s): _____

EMBC Rep Name: _____

Question	Yes	No
Has the local authority issued a state of local emergency?	<input type="checkbox"/>	<input type="checkbox"/>
Is evacuation of the people and belongings required? Or has it occurred?	<input type="checkbox"/>	<input type="checkbox"/>
Have people downstream from this location been advised of the situation?	<input type="checkbox"/>	<input type="checkbox"/>

Local Authority Rep Name: _____

Question	Yes	No
Is there a need to implement the local emergency plan?	<input type="checkbox"/>	<input type="checkbox"/>
Is there a need to issue a state of local emergency?	<input type="checkbox"/>	<input type="checkbox"/>
Does the resident or property owner need to be evacuated or supported?	<input type="checkbox"/>	<input type="checkbox"/>

MoE Rep Name: _____

Question	Yes	No
Is there a potential for a pollution release from this location?	<input type="checkbox"/>	<input type="checkbox"/>
Is the amount of pollution significant?	<input type="checkbox"/>	<input type="checkbox"/>
Are there any water licensees downstream of this location?	<input type="checkbox"/>	<input type="checkbox"/>

MoTI Rep Name: _____

Question	Yes	No
Does this pose any threat to a provincial public transportation asset?	<input type="checkbox"/>	<input type="checkbox"/>

MoH/RHA Rep Name: _____

Question (Name of drinking water supply/purveyor) _____	Yes	No
Does this situation pose any threat to public health?	<input type="checkbox"/>	<input type="checkbox"/>
- Public health risk exposure environmentally?	<input type="checkbox"/>	<input type="checkbox"/>
- Drinking water quality or assurance of quality?	<input type="checkbox"/>	<input type="checkbox"/>

FLNRO Water Stewardship Rep Name: _____

Question	Yes	No
Is there a high likelihood of the watercourse actually impacting the structure?	<input type="checkbox"/>	<input type="checkbox"/>
Are there any related issues with dams, dikes or past mitigative works upstream or downstream?	<input type="checkbox"/>	<input type="checkbox"/>
	1 -2wks	1 – 2 day
How soon is the impact likely to occur?	Now	Too Late

Structures Threatened by Watercourses Site Situation Summary Report

Other Considerations (completed by appropriate rep)

1. In terms of historical incidents at this location how does this incident relate? _____

2. Has there been a risk to cost analysis been completed? _____

3. Has DFA ever been issued for this location before? _____
 If Yes, When? _____

4. Articulation of any other relevant factors to this situation: _____

Multi Agency Site Team Recommendation

Response Option	<input checked="" type="checkbox"/>	Assigned Lead to the actions agreed to
Option 1 – No intervention		
Option 2 – Immediate River Bank Preventative Work		
Option 3 – Move Structure		
Option 4 – Neutralize Structure/Threat		
Option 5 – Dismantle Structure		

Additional Comments:



Union of British Columbia Municipalities

2023 Convention

Briefing Note

Meeting with	Honourable Bowinn Ma Minister of Emergency Management and Climate Readiness Honourable Nathan Cullen Minister of Water, Land and Resource Stewardship
Date	September 22, 2023 (Friday)
Time	0840 - 0855
Location	Room 7, Vancouver Convention Centre, East Building, Level 2

CSRD Meeting Attendees	
Chair Kevin Flynn	
Director Natalya Melnychuk	
John MacLean, CAO	
Jennifer Sham, Manager of Corporate Services	

Subject	Newsome Creek Erosion
Request	That the Province create a multi-jurisdictional team to assist with ideas and actions to effectively, compassionately and efficiently address the Newsome Creek Erosion issues.

Background	<p>The following information can be found on a website developed to capture all of the information related to the Newsome Creek concern:</p> <p>In the Summer of 2009 wildfires swept across Black Mountain south of Sorrento. Varying estimates state up to 1020 hectares were burned. This dramatically changed the watershed's ability to absorb the annual spring run-off.</p> <p>In the Spring of 2011 new waterways formed on Notch Hill cutting gullies 15-20 feet deep. Houses were flooded, roads washed out, and the water system in Notch Hill was contaminated. Almost every year since then the under-sized culverts on Notch Hill have had to be dug</p>
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out by excavators for about a month to clear the debris and gravel coming off the mountain as a result of the fire. The Ministry of Transportation and Infrastructure knows about this, but they have chosen to continue spending money on an emergency basis rather than fix the culvert system.



Culvert at Highway 1 May 2017

In the Spring of 2017 massive erosion occurred in Newsome Creek below Highway 1. Elevated water levels undercut the banks below homes, workshops and garages. Trees fell into the ravine and created a dangerous situation for residents and visitors to the area. Emergency Services BC (EMBC) requisitioned a study that recommended hands-on work be done to prevent further damage to the banks. No action was taken by any governmental body.

In the Spring of 2018 more erosion occurred in Newsome Creek below Highway 1. More trees fell into the ravine, and banks were undercut even further. On May 2 an Evacuation Alert was placed on 11 homes. EMBC quickly funded another study focusing on the geotechnical aspects of the creek below Highway 1. A month later a Danger Tree Report was also done as trees continued to fall into the ravine putting peoples' safety in jeopardy.

In the Fall of 2018 the results of the study were released to the homeowners, and presented to the general public at a Community Stakeholders meeting at Sorrento Memorial Hall. The study recommended an assessment be done in the watershed *above* Highway 1, as well as a feasibility study *below* Highway 1 to determine how the gully could be stabilized.

In January of 2019 CSRD and EMBC matched funding, each paying 50% of the cost for an engineer's assessment which will focus on the area *below* Highway 1 where erosion is threatening homes and workshops. The purpose of the assessment is to create an "engineer approved work plan" so Phase 2 can begin. Phase 2 is doing the actual work that the engineers recommend, which will require another wave of funding which NCWAG has not yet secured.

We have compiled all our information and developed a website.

It can be found at:

[Newsome Creek In A Nutshell – Newsome Creek Watershed Action Group](#)



SHUSWAP EMERGENCY PROGRAM EXECUTIVE COMMITTEE REPORT

TO: Chair and Committee Members

SUBJECT: FireSmart Update

DESCRIPTION: Report from Tom Hansen, Emergency Program Coordinator, dated Sept 25, 2023.

BACKGROUND:

The CSRD has been actively promoting FireSmart and Wildfire Risk Reduction (WRR) since 2019 with support from provincial grant funding through the Union of BC Municipalities (UBCM) Community Resiliency Initiative (CRI) and the Columbia Basin Trust (CBT). In 2022, the FireSmart program was over subscribed, and all allocated funding was used by October of 2022. Due to delayed funding in 2023, the FireSmart Program did not start with new program spending until May. There essentially was a 6-month period where we had no approved funding and relied on internal staff to support the program.

In 2023 a total of \$550,000 was approved from CRI and \$200,000 over two years from CBT. Our local CSRD FireSmart Coordinator and volunteer fire firefighter, Len Youden, continues to deliver a strong program.

The focus of the CSRD FireSmart initiative is to provide public education and promotion of FireSmart principles which serve to reduce the overall wildfire risk to communities. The program provides free FireSmart home assessments to CSRD residents, and the associated rebate program provides up to \$500 to people who complete the eligible work outlined on the home assessment.

FireSmart information is available on the CSRD website and focuses on how residents can reduce their own risk from wildfire by following simple steps during normal spring and fall clean-up activities. Communities were supported in 2023 with resources for clean-up days that include wood-chippers and bin rentals, available and covered under the grant, to reduce or remove flammable vegetation in the Home Ignition Zone (HIZ). Community FireSmart Assessments were completed in additional CSRD rural communities to increase knowledge of their current risk from wildfire. The CSRD has been collaborating with and sharing information with the Revelstoke and Area Emergency Management Program (RAEMP), Golden and Area Emergency Management Program (GAEMP), and neighbouring First Nations to ensure there is consistent communication throughout the CSRD.

CSRD FireSmart strategy for year 5 included:

- Increased scale by focusing more on large events, neighborhood recognition and broad-based advertising and promotion for greater efficiency.
- Target Electoral Areas with lower uptake in the FireSmart Program.
- Increase capacity within the FireSmart Program.
- Fully meet the future requirements for continued UBCM CRI Funding.
- Use completed CWRP's as guides for wildfire resiliency.
- Continue to offer home assessments, rebates, and other successful aspects of the program.

The fifth year of the program started off with increased uptake by residents. The CSRD has continued with a social approach to FireSmart programming to engage residents in building resilience in their property, their community and the entire CSRD. The social approach allows FireSmart efforts to be

concentrated on the populated areas and the urban wildland interface areas which are most vulnerable to wildfire. The goal of the program is to provide residents with the tools, resources, and incentives necessary to build their own wildfire resilience.

Statistics to date include:

- Two full time Wildfire Mitigation Specialists Hired
 - One dedicated for Shuswap
 - One dedicated for Columbia

- 14 total LFR's trained and active.
- CWRP's for Electoral Areas B and E (Field work complete, awaiting first draft).
- Updating of CWRP for Area A (field work complete, awaiting first draft).
- By end of 2023, all EA's will have approved CWRP's.
- In the spring, funded one additional day per week for Scotch Creek and Skimikin transfer stations to be opened for free yard waste disposal (including double axle trailers).
- 205 Home assessments completed YTD (Annual target was 185). These continue to come in at a steady pace likely due to the Bush Creek East wildfire and the 2023 season.
- 102 triage assessments completed in SE Adams Lake and Lee Creek while communities were on Evacuation Alert.
- 53 Rebates issued.
- 12 Neighborhood Assessments completed.
- 5 Neighborhood plans completed.
- 2 additional communities received neighborhood recognition status.
- 2 additional NRP applications pending approval (but all work completed and submitted).
- 45 Events Attended or held.
- 24 Chipper and/or Bins delivered to communities.
- 11 community clean up days organized and executed.
- Regional Community FireSmart Resiliency Committee Developed – initial meeting held.
- 5 Local Community FireSmart Resiliency Committees Developed and meetings held.
- Promotion and events focused in Areas A, B and D where uptake has not been at the same rate as other EA's.
- Numerous local promotion and advertising events through newspaper, radio, and social media.

In 2024 the CRI FireSmart grant application requirements have changed substantially to simplify the process.



NEXT STEPS:

SEP requires support from the Executive Committee/CSRD Board to apply for the new allocation funding in 2024 (\$200,000 plus \$50,000 per Electoral Area equals \$550,000 total). An update will be shared with the SEP Executive Committee when the 2023 FireSmart grant project and final report is completed. SEP staff will update the SEP Executive Committee when the 2024 allocation is approved and received.



SHUSWAP EMERGENCY PROGRAM EXECUTIVE COMMITTEE REPORT

TO: Chair and Committee Members

SUBJECT: Structure Protection Unit (SPU) Program Update

DESCRIPTION: Tom Hansen, Emergency Program Coordinator, Sept 26, 2023.

BACKGROUND:

Structure Protection Unit (SPU) Program

The Shuswap Emergency Program (SEP) has a total of four Type 2 SPU trailers that were all deployed multiple times to fires both locally and provincially in 2023, with and without SPU crewmembers. Lots of additional training and experience was gained in 2023.

The trailers are now being cleaned up and refurbished. We expect some missing equipment items will be returned over winter when BCWS equipment depots have tracked them down. Any remaining lost or damaged items will be replaced before the 2024 wildfire season.

NEXT STEPS:

Continue clean up and refurbishment of trailers.

SPU Crew feedback will be gathered before next season to improve the program.

Work is ongoing compiling the financial information into recovery packages for provincial reimbursement.



SHUSWAP EMERGENCY PROGRAM EXECUTIVE COMMITTEE REPORT

TO: Chair and Committee Members

SUBJECT: Shuswap Emergency Program (SEP) Training Program

DESCRIPTION: Report from Tom Hansen, Emergency Program Coordinator, Sept 26, 2023.

BACKGROUND:

Training since our last SEP Executive Committee meeting in April:

- Monthly ESS Team
- Monthly Mobile Operation (MO) Team
- S-100 training and annual recertification for CSRD Volunteer fire fighters.
- Structure Protection Unit (SPU) Team spring training
- Elected Officials Emergency Management training
- Online training by staff and volunteers through EMCR/JIBC
- Live training and experience in the EOC this season for many staff and volunteers.
- Note: a previously planned EOC exercise was cancelled due to the real activation.

Requests were submitted to EMCR for additional in-person training in EOC Planning, Operations and Logistics to be delivered by JIBC.

NEXT STEPS:

Continue supporting staff and volunteers in registering for and completing EM training online. Confirm in-person training for 2023-24 supported by EMCR/JIBC and communicate with students. Update SEP Training spreadsheet.



SHUSWAP EMERGENCY PROGRAM EXECUTIVE COMMITTEE REPORT

TO: Chair and Committee Members

SUBJECT: Emergency Support Services (ESS)

DESCRIPTION: Report from Cathy Semchuk, Emergency Program Coordinator, dated September 25, 2023.

BACKGROUND:

Emergency Management within the Shuswap Emergency Program (SEP) boundary is governed by the provincial Emergency Program Act, 1996 and Shuswap Emergency Program (SEP) Regulatory Bylaw No. 5690.

The British Columbia Emergency Program Act – Local Authority Management Regulation, Section 2(3)(f), states that a local authority must, as part of the local emergency plan, prepared by it under section 6(2) of the Act, “coordinate the provision of food, clothing, shelter, transportation and medical services to victims of emergencies and disasters, whether that provision is made from within or outside of the local authority”.

Emergency Support Services (ESS) provides temporary services including food, clothing, and shelter to preserve the emotional and physical well-being of individuals and families displaced by an emergency. Displaced people may be residents of the local community or request may be made to host evacuees from an outside community. Services may be provided on site, for a small-scale event, or a designated facility referred to as a Reception Centre for larger responses.

The goal of ESS is to help people begin to re-establish themselves as quickly as possible after an emergency or disaster. The three key functions of ESS are:

- Help people meet their immediate basic needs during and immediately after a disaster.
- Reunite families separated by disaster.
- Provide people affected by a disaster with accurate and up-to-date information.

The Shuswap ESS Team consists of over 70 volunteers who meet and train on a regular basis.

2023 Highlights:

EMCR continues to work through the modernization of Emergency Support Services which includes new branding, policies, processes and an update to the Evacuee Registration and Assistance tool (ERA 2.0). ERA provides ESS Teams with an online option of providing evacuees ESS services.

The Shuswap ESS Team embraced the challenge of adapting to the new changes the modernization project brought to our program. It was essential that our team became comfortable and proficient with these new approaches and tools as modernization offered a more secure, efficient, and accountable way to offer ESS services.

The ESS 2023 training plan included monthly training on ERA, inviting our neighbouring Revelstoke and Golden Teams to train together, increasing capacity throughout the entire CSRD electoral areas. This training culminated in an Exercise held on March 24 and 25 where 25 volunteers from all three ESS

Teams practised setting up Registration and Referral stations and worked through the process of registering mock evacuees on the ERA tool.

This training was very successful, and plans were being made to host a second exercise in the fall testing the ability to conduct registration virtually.

As the summer progressed, planning for this exercise was placed on hold and our team braced for activating in response to wildfires in our area. On August 2, the Shuswap ESS Team activated a Reception Centre at the Quaaout Lodge assisting evacuees from Dorian Bay, Woolford Estates, Enns Reach and Adams Lake IB. Since that time, the Shuswap Reception Centre has been relocated to five different locations, assisting over 860 families from Adams Lake, Lee Creek, Scotch Creek, Celistia, Anglemont, Sorrento, Skimikin, TNRD (Adams Lake and Turtle Valley) and CORD (Kelowna).

The Shuswap Reception Centre has been activated for 56 days.

59 volunteers (out of a team of 70) assisted in the Reception Centre logging over 3850 hours.

The Reception Centre continues to operate providing accommodation and food to those uninsured and under-insured families who experienced a total loss of their home and belongings.





SHUSWAP EMERGENCY PROGRAM EXECUTIVE COMMITTEE REPORT

TO: Chair and Committee Members

SUBJECT: Evacuation Route Planning

DESCRIPTION: Report from Cathy Semchuk, Emergency Program Coordinator, dated September 25, 2023.

BACKGROUND:

Shuswap Emergency Program (SEP) was successful in obtaining UBCM grant funding through the Community Emergency Preparedness Fund to conduct Evacuation Route planning in April of 2021. Red Dragon Consulting was engaged to develop community evacuation and guidance documents for ten high-risk communities in our coverage area (listed below). Community guidance documents took a zoned approach to evacuation route planning. Zone mapping was created and included a one-page quick reference tool providing modelled data on population, situation assessments, evacuation decision-making timelines, physical evacuation clearance times and other zone-specific information. These quick reference guides provide the Emergency Operations Centre (EOC) with community specific information enabling the EOC to make educated, fact based and sound decisions quickly.

Evacuation Guidance Documents have been completed for the following high-risk communities:

- Anglemont
- Blind Bay
- Eagle Bay
- Falkland
- Lee Creek
- Malakwa
- Scotch Creek
- Seymour Arm
- Sorrento
- Sunnybrae
- Swansea Point

Community Template Example

Columbia Shuswap Regional District Evacuation Zone		Evacuation Operating Guidance One Page Summary			
Name	Subzone 1 – Falkland Centre	Risk Level			
Properties: 300	Need to refer to 2016 Census which provides 818 population – action req	HIGH: Wildfire MEDIUM: Road LOW: Flood			
Evacuation Time Planning		Special Evacuation Considerations			
EOC Evacuation Activities	1 hr.	Rural Community, Agriculture			
Mobilize emergency service and be on site	1 hr.	Estimated Populations			
Mobilize the physical evacuation	2 hrs.	714 (BC multiplier 2.38)			
Contingency Time	2 hrs.				
Sites & Resources				Details	
Primary Reception Centre Point	To be determined				
Secondary Reception Centre Point	To be determined				
Water evacuation point	N/A				
Heli-pad staging area	MEDI EVAC Only	Falkland Stampede Grounds or pasture adj Elementary School			
Evacuations Teams SAR/RCMP	#3 x 2-person min	Contact RCMP/MOTI/Reference.			
Traffic Control Points #7 If zone on Order	Considerations: Subzone 2 access compromised if Sub zone 1 on ORDER, consider aligning southern boundary with highway. Roving security patrols. Northern access via Chase Falkland Road				
Slow Signage	#1 unit	Hwy 97			
Other	Falkland Elementary School, Fire Hall				
Evacuation Alert Guidance		Evacuation Order Guidance			
Be prepared messaging	Reminder to create a plan	Inform residents of safe direction of travel	Checkpoints staff to have direct contact with EOC Ops		
Domestic pet evacuation planning		Inform residents of safe destination, reception centre and ERA ESS	Door knocking teams to record and confirm resident evacuation status		
		Subzone 1 interlinked for access with sub zone 2 Falkland Road			

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2023 Highlights:




SEP was again successful in securing Community Emergency Preparedness Fund (CEPF) funding to continue evacuation route planning for ten additional high-risk communities (see list below). Each community chosen has separate challenges for evacuation planning ranging from water evacuation to floods to evacuation route compromise, to dependency on a single route and impacts from wildfires.

Red Dragon will be engaged once again gather data, determine zones and identify all known hazards that have the potential to impact or remove an evacuation route within each of the selected

communities. Information will be compared with recent and historical events in the area and surrounding areas, including referencing the Hazard Risk and Vulnerability Analysis (HRVA) based on likelihood, potential magnitude, and level of progression. This hazard and risk level will be incorporated into the guidance documents assisting in determining evacuation assessment triggers.

The data will then be used to develop evacuation planning guidance documents to be used specifically by the EOC and are not public facing documents. The content of each community guidance document will include the anticipated speed of progression to provide trigger criteria for evacuation decision making (wildfire, flooding, debris, and "other" category); physical evacuation route modelling data; evacuation route alternatives, decision making timeline for each community evacuation, based on real time; method and modes of evacuation, assembly points, traffic and security locations and resources required for route management, water evacuation modes and methods, if appropriate. Including such factors as: traffic congestion; alternative modes; designated routes; pinch points on highway routes and side roads, and interdependent resources. Each document to include a one-page quick access reference evacuation route priorities, issues, and resources. All resources to be displayed in ArcGIS as appropriate.

Red Dragon will also be providing a Community Evacuation Plan for distribution to residents in each of the communities.

<p>2023 CEPF will provide Grant Funding to complete Evacuation Guidance Documents for the following high-risk communities:</p> <p style="text-align: center;">Celista Dorian Bay/Woolford Estates White Lake/Little White Lake Tappen Notch Hill Silver Creek Ranchero/Deep Creek Annis Bay Cambie Solsqua Queest/Anstey</p>	<div style="text-align: center; background-color: #c00000; color: white; padding: 5px;">  COMMUNITY EVACUATION PLAN  </div> <div style="text-align: center; margin-top: 20px;">  <p style="font-size: 0.8em; margin-top: 5px;">D9W</p> </div>
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