BRICKLIN & NEWMAN LLP
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Reply to: Seattle Office

May 30, 2024

VIA EMAIL TO: northwest.region@dnr.wa.gov
NW_FP@dnr.wa.gov

Jay Guthrie, Regional Manager
Teresa Guard, Forest Practices Permit Specialist
Northwest Region
919 N. Township St.
Sedro Wooley, WA 98284-9384

Re: Public Comments on FPA No. 2819391

Dear Mr. Guthrie, Ms. Guard, and DNR:

Our firm represents the Lake Cavanaugh Trust, a group of landowners along the shore of Lake Cavanaugh in Skagit County. Our client's members and their neighbors around the lake oppose the pending forest practice application submitted by Timberline Logging, Inc., for road building and logging on the slopes of Frailey Mountain, FPA No. 2819391. For the reasons described here, DNR should deny approval of FPA No. 2819391.

As an initial matter, the applicant submitted a revised FPA on May 29, 2024. The comment period on FPA No. 2819391 ends on May 30, 2024. As of May 30, 20124, DNR's Forest Practices Application Review System (FPARS) states the "notification date" for FPA 2819391 as 5/29/24.[1] The public comment period should run from the current notification date of this FPA. In light of the new notification date and yesterday's revisions to FPA 2819391 (on the literal eve of the comment period deadline), we request that the comment period on FPA 2819391 be restarted, so that our comment letter, our consultant's comment letter, and the comments of nearby residents can address the revised FPA.

It is unfair to allow the applicant to revise the application on the next-to-last day of the comment period without also extending the comment period. For example, our consultant, Dan McShane, provided us with his comment letter several days ago (submitted herewith) and is in the field today, so he cannot revise his comments to address the revised application. Any refences in Mr. McShane's comment to page numbers in the FPA refer to the pagination of the FPA prior to yesterday's revisions.

[1] https://fortress.wa.gov/dnr/protection/fparssearch/FPARResult.aspx?fpa=2819391 (last visited May 30, 2024).

1. Timberline Logging, Inc. Is Not a Small Forest Landowner

The FPA claims that Timberline Logging is a small forestland owner as defined in RCW 76.09.450 (FPA PDF 3/50) and that Timberline Logging owns less than 500 acres of timber lands (FPA PDF 4/50, response to Question 11.i regarding the trigger for Appendix J. Marbled Murrelet Form). Both statements are incorrect, because Timberline Logging is co-owned by David and Robert Nielsen, who also co-own Nielsen Brothers, Inc. The two companies use the same mailing address in in Bellingham: 900 Dupont Street, Bellingham, WA, 98225. The contact email for landowner is: SamP@nielsenbrothers.net (note Nielson Brothers email address). Page 1 (PDF 2/50) of FPA No. 2819391 confirms that the timber owner of this FPA is Nielsen Brothers, Inc. Note also that the applicant's SEPA checklist is signed by the same person that signed the FPA— Samuel Petska—and on that SEPA checklist he states his position and organization as "Forester/Nielsen Brothers Inc." SEPA Checklist at PDF 15.

In light of the intertwined nature of the businesses, Timberline Logging's timber harvest and landownership must be aggregated with Nielsen Brothers and any other companies controlled by the Nielsen Brothers (including but not limited to West Side Logging). Without a showing by Nielsen Brothers that it (together with its corporate alter egos) meets the definition of "small forestland owner" in RCW 76.09.450, Timberline Logging cannot qualify for the more lenient rules applicable to small landowners.

DNR should deny the FPA unless Timberline Logging discloses its true nature as a large forestland owner, not a small forest landowner. Such a disclosure likely would require Timberline Logging to revise various portions of this FPA.

Timberline Logging/Nielsen Brothers appear to acknowledge that it is appropriate to consider all logging operations by both Timberline and Nielsen because this application includes a Marbled Murrelet Form. That form was submitted because this FPA is within 50 miles of saltwater and Timberline Logging/Nielsen Brothers own more than 500 acres of forestland in Washington state.[2]

2. No Road Maintenance and Abandonment Plan (RMAP)

FPA No. 2819391, page 4 (PDF 5) shows no abandonment date for "Road A Extension." Large forest landowners are required to submit a full RMAP. WAC 222-24-051. As described above, Timberline Logging/Nielsen Brothers is a large forestland owner, not a small forestland owner. The absence of a full RMAP is grounds to deny this FPA. The "Small Forest Landowner Checklist Road Maintenance and Abandonment Plan" that is included in the FPA starting at PDF 18/50 is insufficient.

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[2] We note that the current instructions for the Appendix J Marbled Murrelet Form state: "This form is only necessary if you are harvesting timber, salvaging timber, or constructing forest roads within 50 miles of saltwater (marine waters)." https://www.dnr.wa.gov/publications/fp_form_murrelet_instructions.pdf (last visited May 30, 2024).

3. FPA No. 2819391 Proposes Forest Practices on an Alluvial Fan.

As further described in the May 27, 2024 comment letter of Dan McShane, L.E.G., M.Sc. (submitted together with this comment letter under the same cover email), FPA No. 2819391 proposes a road extension across alluvial fans and the associated streams and proposes a timber harvest on an alluvial fan.

Timber harvest is not permitted on alluvial fans associated with Type Np (no fish, perennial flow) streams. WAC 222-30-021(2)(b)(vi) ("No timber harvest is permitted within an alluvial fan"). Unlike buffer requirements, which are adjustable depending on local circumstances, the prohibition against harvest on an active alluvial fan is absolute (subject only to the stream-crossing exception, but no stream is crossed in AF-2 and the proposed timber harvest goes well beyond any road building activity). While modifications to buffer requirements might be minor (as in *Quinault Nation*), harvest on an alluvial fan is more than minor and forbidden.

The geotechnical report attached to FPA No. 2819391 (Icicle Creek Engineers, Nov. 1, 2023,[3] hereinafter "ICE Geotech Report") identifies three alluvial fan areas: AF-1, AF-2 and AF-3. The applicant admits that AF-1 and AF-3 are active alluvial fans. But the applicant asserts that AF-2 is a "relict" alluvial fan and thus deems it "OK to harvest" as part of the "Proposed Harvest Unit." ICE Geotech Report at Figure 12 ("ALLUVIAL FAN MAP"), PDF 48/50. The "Proposed Harvest Unit is elsewhere identified as "Unit 1." FPA 2819391 at PDF 11, 14. This Unit 1 is proposed to be clearcut. ICE Geotech Report at 3, PDF 24/50 ("TLI is proposing clearcut harvest of . . . primarily mature conifer trees").

Harvesting trees on an active alluvial fan can contribute to the destabilization of the fan, as the Board Manual notes at M7-8: "Alluvial fans may build up over thousands of years and be covered by trees. The roots of these trees can serve to stabilize fan channels." Yet nothing in FPA No. 2819391 proposes a replacement for the lost ecological function of removing the mature trees in the roadbed, which cuts across three alluvial fans. FPA No. 2819391 specifies that potentially unstable slopes are present both "in" and "around" the proposed roadbuilding and logging. FPA No. 2819391 at PDF 1/50. The FPA also specifies that the soils in the area of the proposed roadbuilding and logging are both "Highly Erodible" and "Highly Unstable." *Id*.

Mr. McShane agrees with ICE that AF-1 and AF-3 are active alluvial fans. But he and Lake Cavanaugh Trust disagree with ICE regarding AF-2. AF-2 is not a relict alluvial fan. Instead, "AF-2 is essentially part of the same alluvial fan as AF-3." McShane Comment, May 27, 2024, at 2. Mr. McShane provides three reasons why ICE's determination that AF-2 is a relict alluvial fan is incorrect.

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[3] Icicle Creek Engineers, Inc. Report of Geotechnical Services Evaluation of Potentially Unstable Slopes and Landforms and Alluvial Fans Proposed Road A Extension and Harvest Unit SW¼ Section 27, Township 33 North, Range 6 East Lake Cavanaugh Area, Skagit County, Washington November 1, 2023, ICE File No. 1319-005.

First, bare earth LiDAR imagery "shows what appear to be three swales or old channels on the fan area surface. These swales are not described in the report and suggest that stream channels occupied this surface in the past." McShane Comment, May 27, 2024, at 2 (and see LiDAR image on same page). "The lidar also indicates features that appear to be overflow berms – a typical feature of debris flow deposition on alluvial fans." *Id*.

Second, ICE describes Stream #2 as incised 10 to 15 feet into the fan surface at the apex of AF-2. ICE Geotech Report at 9, PDF 30/50. ICE opines that "AF-2 was formed when Stream 2 was at a higher base level, and therefore under geologic conditions which are no longer present and are no longer dynamic[.]" *Id*. But the "approach of using base elevation or incision into the fan surface is inconsistent with the Forest Board Manual for alluvial fan assessments." McShane Comment, May 27, 2024, at 3. "The degree of channel incision at the fan head is not a reliable indicator of the lack of channel shifting potential, as infrequent but large flood events or debris flows can rapidly fill the channel." (Forest Board Manual, page M2-37). Infrequent but large flood events or debris flows are likely in Stream #2, as explained by Mr. Shane in his third reason why ICE's determination that AF-2 is a relict alluvial fan is incorrect.

Third, evidence from nearby similarly-sized and similar gradient stream watersheds indicates that infrequent large debris flows should be expected on Stream #2:

a. "A large debris flow took place on the stream two streams to the west of Stream #2 in 2016. That stream was similarly incised into the upper fan and debris completely filled the channel and was deposited on the fan surface just past the top edge of the channel beginning at the apex of the alluvial fan." McShane Comment, May 27, 2024, at 3. "The presence of mature trees on the fan prevented debris flow material from leaving the stream route and thus prevented an avulsion onto the upper fan surface. However, debris did escape the stream route as soon as it entered the clear cut harvest on the lower part of the fan." *Id*. As Mr. McShane points out, this 2016 debris flow event "supports the Board Manuals statement that 'channel incision at the fan head is not a reliable indicator of the lack of channel shifting potential' as this stream nearly immediately incised back down to bedrock on the upper fan." *Id*.

b. "A similar event took place on another steam of similar size further to the west in approximately 2002. That stream also filled its incised channel, but escaped the channel onto the fan surface as soon as the debris flow reached a clear cut on the fan surface." *Id*.

c. "A debris flow took place to the east as well in approximately 2016. That debris flow stopped on the upper part of the fan, but does indicate that debris flows are an ongoing active geology process on the streams that extend to the ridge of mountain slope above." *Id*.

"The three streams described above have watersheds of a similar size and gradient to that of Stream 2 and demonstrate that the geologic processes that lead to debris flows filling incised channels and fan processes at these alluvial fans is still active and dynamic under current geology and climate conditions." *Id*.

4. The Construction of a Bridge Across Stream #2 Will Increase the Risk of a Stream Channel Avulsion.

The ICE Geotech Report states that Stream #2 crossing is located where the creek is incised into a 10- to 15-foot deep valley. ICE Geotech Report at 8, PDF 29/50. ICE opines that "Stream #2 will occasionally convey naturally-occurring debris flows sourced in its upper watershed[.]" *Id*. at 9, PDF 30/50. ICE states that the "naturally-occurring debris flows conveyed by Stream #2 also have the potential to overtop the channel, avulse into a new channel, and possibly affect South Shore Drive and residential structures downstream of Stream Crossing #2, so we expect that the naturally-occurring risk to public safety will be **moderate to high**." *Id*. at 10, PDF 31/50 (bold emphasis in original).

Mr. McShane and Lake Cavanaugh Trust agree that the proposed bridge over Stream #2 has sufficient clearance to "allow clear water floods to pass under the bridge." McShane Comment, May 27, 2024, at 4. But "debris flow peak discharges typically greatly exceed clear water floods. Debris flood and debris flows have peak discharge rates that can be considerably greater than 100-year flood return periods." *Id*. "Debris flow peak discharges up to 50 times the peak discharge of a 200-year return period clear water flood have been reported by Jakob and Jordan (2001)." *Id*.

"[C]reeks subject to debris flows and debris floods may flood more frequently and at much greater intensity than the predicted clear water flood return periods based on standard run off analysis." *Id*. "Large logs will likely be incorporated within the debris flows" at the proposed Stream #2 bridge crossing. *Id*. Mr. McShane has personally observed this "on most of the debris flows on the streams coming off the upper ridge of Frailey Mountain[.]" *Id*. Mr. McShane provides a photo as an example:

Large logs from debris flow in stream two watersheds to the west, a similar sizes and gradient stream to Stream #2. Note large logs deposited as much as 20 feet above bottom of stream channel.

Id. at 5. "Large debris flows with large logs will very likely become jammed at a bridge crossing at [the proposed bridge over Stream #2]. This will alter the flow path of the debris flows out of the channel increasing the risk to down slope properties that are located away from the stream path and also potentially causing a larger debris dam failure downstream of the bridge location." *Id*. at 4. In sum, as stated by Mr. McShane:

> Removal of trees on the alluvial fan will increase the risk of debris flows traveling further down the alluvial fan and increase the risk of debris flows with large logs impacting properties and public resources on the lower reaches of the alluvial fan. The removal of trees also will increase the risk of a channel avulsion impacting properties and public resources lower on the fan surface. Placing a permanent bridge across an area where debris flows are expected to flow increases the risk of channel blockage during a large debris flow event resulting in an increase to the risk [of] down fan properties and public resources.

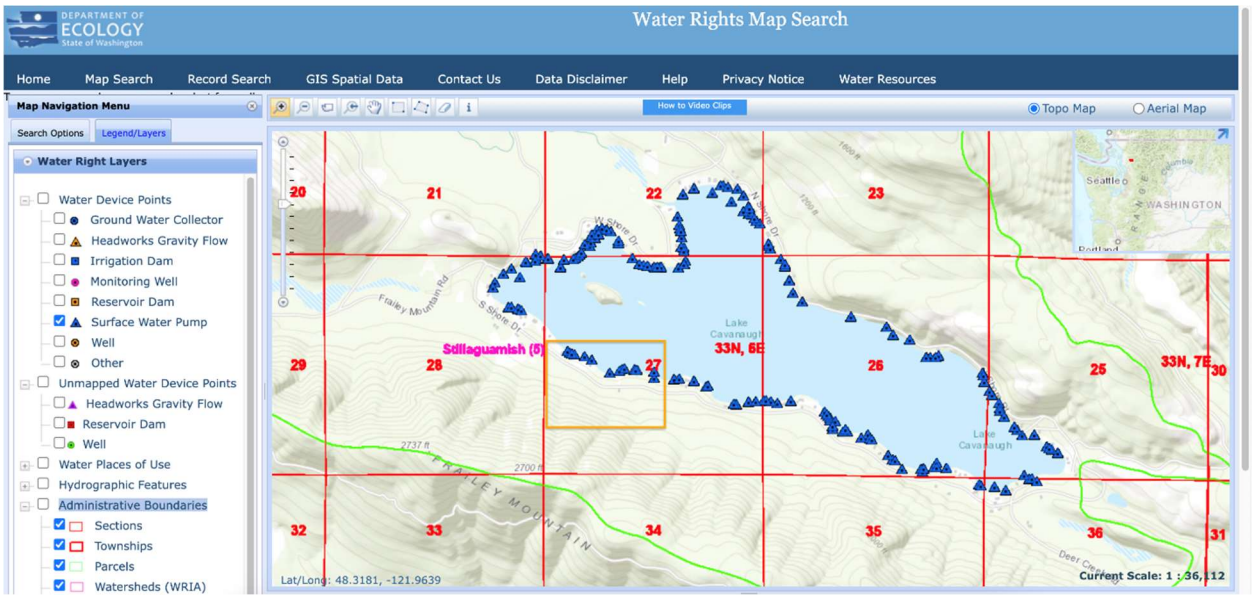
Id. at 6.

5. The Applicant's Marbled Murrelet Form is Inadequate.

The Marbled Murrelet Form is inadequate, because it asserts that there are no marbled murrelet nesting platforms within 300 feet while admitting that no protocol survey was done. The applicant admits in its SEPA Checklist: "This proposal is affected by marbled murrelet timing restrictions." SEPA Checklist, Question B.5.b (PDF 8). This FPA should not be approved without a protocol survey approved by WDFW.

6. The Project Would Adversely Impact Domestic Water Supplies.

All of the project streams drain to Lake Cavanaugh, which supplies drinking water via surface water withdrawals for dozens of residences. The figure below includes only surface water pump devices around the lake (excluding wells). The area of the proposed land disturbing activity is highlighted with an orange box:



In its SEPA Checklist, the applicant admits that "fuel, oils or other heavy machinery waste materials may inadvertently reach surface waters because of heavy equipment use or failures." SEPA Checklist Question B.3.a.6 (PDF 6). Moreover, the applicant admits that "sediment from road building and logging could enter surface waters." SEPA Checklist Question B.3.c.2 (PDF 7). That is an understatement. The photograph below shows increased runoff about to enter the lake (in the background), laden with sediment, from last year's logging that was performed in the immediate area of this proposal, where residential lots were impacted and increased runoff flooded South Shore Drive:

The FPA should be denied because of the significant risk that it poses to nearby drinking water supplies.

7. Additional Concerns

- In Appendix D of the FPA form, the applicant should have also checked "Other" under Question 2.a and accurately described the alluvial fans. The same comment applies to Appendix D, Question 3.a.

- The harvest area appears to extend onto a parcel not owned by Timberline Logging. If the scale on ICE Geotech Report Figure 6 (PDF 42/50) is accurate, then it appears that the harvest area (and perhaps part of the proposed road) is on two parcels with the southern tip of the triangle on Parcel No. 18465. Parcel No. 18465 is owned by West Side Logging LLC, which is yet another alter ego of Nielsen Brothers, Inc.

- The applicant should have reviewed this forest practices activity area to determine whether it may involve historic sites and/or Native American cultural resources, under FPA Question 8 (PDF 3).

- Under FPA Question 11.1 (PDF 4), the applicant should have checked the "Yes" box, because Timberline Logging is an alter ego of Nielsen Brothers, Inc., which owns more than 500 acres of forestland in Washington.

- Under FPA Question 20, the applicant failed to specify any particular conifer species for replanting, even though the question directs the applicant to specify the tree species.

- The ICE Geotech Report at Section 4.0 (PDF 24/50) states: "Based on our review of TLI's preliminary Activity Map (September 20, 2023; shown on Figure 2) and discussions with Mr. Petska, we understand that the three streams crossed by the Road A Extension alignment are likely to be Type Np (no fish, perennial flow) at the crossing locations, and Type F (fish use) downstream of the crossing locations." Several reports from local residents indicate fish may be present in these streams. This should be further evaluated to ensure this application is completed correctly and proposed mitigations will be sufficient to protect fish.

8. Conclusion

For the foregoing reasons, DNR should deny approval of FPA No. 2819391.

Very truly yours,

BRICKLIN & NEWMAN, LLP

Zachary Griefen
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STRATUM GROUP
PO Box 2546, Bellingham, Washington 98227

May 27, 2024

Re: **Comments on Forest Practice Application 2819391**
Lake Cavanaugh, Skagit County, Washington

WAC 222-30-021(2)(b)(vi) states "No timber harvest is permitted within an alluvial fan."

Forest Practice Application 2819391 proposes a road extension across alluvial fans and the associated streams and proposes a timber harvest on an alluvial fan.

The geotechnical report (Icicle Creek Engineers, 2023) identifies three alluvial fan areas: AF-1, AF-2 and AF-3. The report indicates that AF-1 and AF-3 are active alluvial fan areas. I concur with that assessment based on my on the ground observations of both AF-1 and AF-3 and my interpretation of the geology of the area and lidar bare earth imagery of the fans.

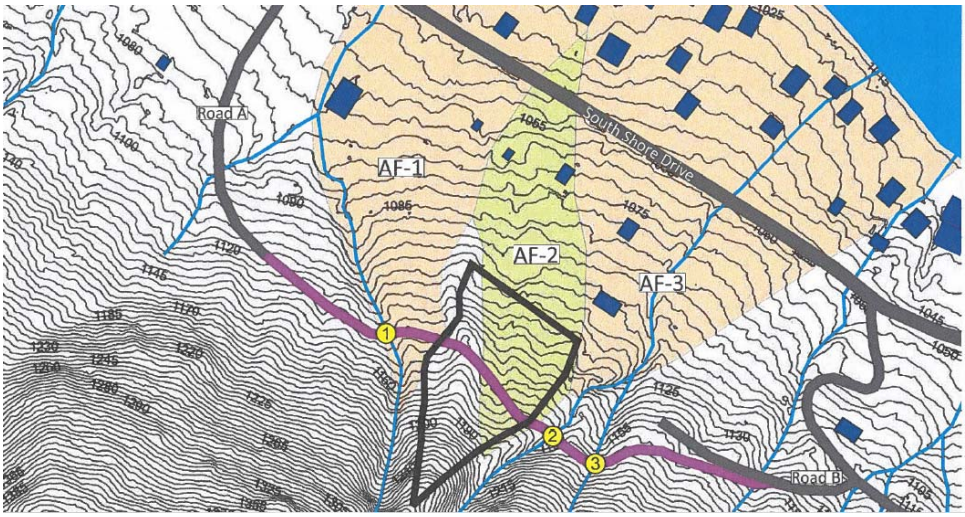


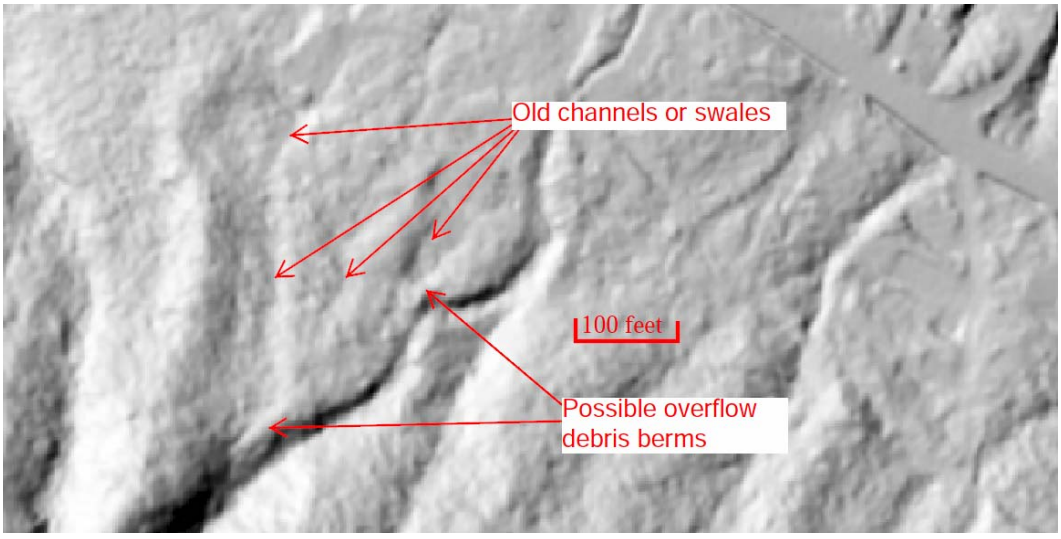
Figure 12 from Icicle report

AF-2 is essentially part of the same alluvial fan as AF-3. Icicle has interpreted AF-2 as a relict alluvial fan on page 9 of their report:

> **AF-2 (Relict) –** AF-2 is characterized by broadly divergent, smooth topography; the feature no longer contains a stream channel, though Stream #2 borders the upper (southeast) edge of AF-2 for about 100 feet before the stream diverts east. At the apex of AF-2, Stream #2 is incised into the adjacent topography about 10 to 15 feet and is lined with bedrock. AF-2 is vegetated with mature conifer trees and occasional deciduous trees, and light to medium dense brush.
>
> We did not observe evidence of recent or historic channel avulsion, overtopping or accumulation on this surface. We did not observe evidence of streambank erosion or high water (such as scouring or sediment/woody debris deposition) at the apex, which could indicate a history of high flow events or debris flows with potential to inundate AF-3. In our opinion, AF-2 was formed when Stream #2 was at a higher base elevation, and therefore under geologic conditions which are not currently present and are no longer dynamic; based on our evaluation, AF-2 should be considered **Relict,** and is not considered an Alluvial Fan from a regulatory perspective (WAC 222-16-010("Sensitive Sites")(5)).

The following comments are provided regarding the interpretation of the alluvial fan being considered relict.

1. Lidar bare earth imagery shows that the surface of AF-2 shows what appear to be three swales or old channels on the fan area surface. These swales are not described in the report and suggest that stream channels occupied this surface in the past. The lidar also indicates features that appear to be overflow berms – a typical feature of debris flow deposition on alluvial fans.



Lidar bare earth imagery of AF-2 and Stream 2

2. Using base elevation of the stream channel on an alluvial fan is not consistent with the Forest Board Manual.

Icicle Creek describes Stream #2 as incised 10 to 15 feet into the fan surface at the apex of AF-2. Icicle Creek opines that "AF-2 was formed when Stream 2 was at a higher base level, and therefore under geologic conditions which are no longer present and are no longer dynamic".

The approach of using base elevation or incision into the fan surface is inconsistent with the Forest Board Manual for alluvial fan assessments. The Manual states that "The degree of channel incision at the fan head is not a reliable indicator of the lack of channel shifting potential, as infrequent but large flood events or debris flows can rapidly fill the channel." (page M2-37 of Manual).

3. Empirical evidence at nearby similar sized and similar gradient stream watersheds indicate that infrequent large debris flows should be expected on Stream #2.

A large debris flow took place on the stream two streams to the west of Stream #2 in 2016. That stream was similarly incised into the upper fan and debris completely filled the channel and was deposited on the fan surface just past the top edge of the channel beginning at the apex of the alluvial fan. Debris was deposited all along the edge of the fan surface above the stream channel. The presence of mature trees on the upper fan prevented debris flow material from leaving the stream route and thus prevented an avulsion onto the upper fan surface. However, debris did escape the stream route as soon as it entered the clear cut harvest on the lower part of the fan. The event supports the Board Manuals statement that "channel incision at the fan head is not a reliable indicator of the lack of channel shifting potential" as this stream nearly immediately incised back down to bedrock on the upper fan.

A similar event took place on another steam of similar size further to the west in approximately 2002. That stream also filled its incised channel, but escaped the channel onto the fan surface as soon as the debris flow reached a clear cut on the fan surface.

A debris flow took place to the east as well in approximately 2016. That debris flow stopped on the upper part of the fan, but does indicate that debris flows are an ongoing active geology process on the streams that extend to the ridge of mountain slope above.

The three streams described above have watersheds of a similar size and gradient to that of Stream 2 and demonstrate that the geologic processes that lead to debris flows filling incised channels and fan processes at these alluvial fans is still active and dynamic under current geology and climate conditions.

4. The construction of a bridge across Stream #2 will increase the risk of a stream channel avulsion.

The Icicle Creek report states that Stream #2 crossing is located where the creek is incised into a 10- to 15-foot deep valley (page 8). Icicle Creek opines "that Stream #2 will occasionally convey naturally-occurring debris flows sourced in its upper watershed" (page 9).

On page 10 Icicle Creek states that "the bridge will have 15-feet of clearance between the bottom of the bridge and the 100-year high-water mark." On this basis they expect the crossing should allow natural conveyance of water, sediment and debris during high flow and/or debris flow events".

I agree that the clearance will readily allow clear water floods to pass under the bridge; however, debris flow peak discharges typically greatly exceed clear water floods. Debris flood and debris flows have peak discharge rates that can be considerably greater than 100-year flood return periods. Debris flow peak discharges up to 50 times the peak discharge of a 200-year return period clear water flood have been reported by Jakob and Jordan (2001).

While heavy rainfall events often trigger landslides in drainage basins leading to debris flows and floods, the debris flows and floods that exceed 100-year return period clear water flood events can occur more frequently than the calculated clear water flood return period. That is, creeks subject to debris flows and debris floods may flood more frequently and at much greater intensity than the predicted clear water flood return periods that are based on standard run off analysis. The return frequency and size of peak discharges associated with debris flows and debris floods is dependent upon stream morphology and stream basin geomorphic processes. Hence, it is essential to have a good understanding of the geomorphic processes and stream morphology to assess the scale of and the frequency of debris events.

As noted above, empirical evidence from nearby streams with similar watershed area and gradients that extend to the summit ridge of Frailey Mountain have had infrequent but very large debris flows. Similar infrequent large debris flows should be expected at this site.

Large logs will likely be incorporated within the debris flows. Such has been the case on most of the debris flows on the streams coming off the upper ridge of Frailey Mountain (personal observations at six similar streams on the north side of Frailey Mountain and pictured below).

Large debris flows with large logs will very likely become jammed at a bridge crossing at this location. This will alter the flow path of the debris flows out of the channel increasing the risk to down slope properties that are located away from the stream path and also potentially causing a larger debris dam failure downstream of the bridge location.

Large logs from debris flow in stream two watersheds to the west, a similar sizes and gradient stream to Stream #2. Note large logs deposited as much as 20 feet above bottom of stream channel.

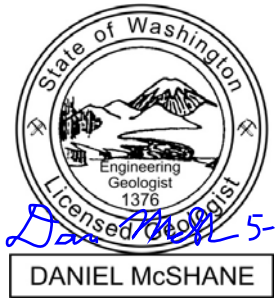
Closure

Removal of trees on the alluvial fan will increase the risk of debris flows traveling further down the alluvial fan and increase the risk of debris flows with large logs impacting properties and public resources on the lower reaches of the alluvial fan. The removal of trees also will increase the risk of a channel avulsion impacting properties and public resources lower on the fan surface. Placing a permanent bridge across an area where debris flows are expected to flow increases the risk of channel blockage during a large debris flow event resulting in an increase to the risk down fan properties and public resources.

Thank you for considerations of these comments.

Sincerely yours,
Stratum Group

Dan McShane, L.E.G., M.Sc.
Licensed Engineering Geologist



Dan McShane 5-27-24

DANIEL McSHANE