WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT

Jon Hutchings
DIRECTOR

ADMINISTRATION
CIVIC CENTER
322 N. Commercial Street, Suite 210
Bellingham, WA 98225-4042
Telephone: (360) 778-6230
FAX: (360) 778-6231
www.whatcomcounty.us
JHutchin@co.whatcom.wa.us

July 2, 2020

Ms. Erin Uloth
District Ranger
Mt. Baker Ranger District
810 State Route 20
Sedro-Woolley, WA 98294

RE: North Fork Nooksack Vegetation Management Project

Dear Ms. Uloth:

Whatcom County Public Works and Planning and Development Services staff have reviewed the scoping documents for the proposed North Fork Nooksack Vegetation Management Project and offer the following comments. Our initial review of the scoping documents identify concerns including the potential to elevate risk to life safety and damage to public and private infrastructure due to increased slope instability as well as threats to ESA listed species due to increased sedimentation, loss of riparian habitat function and alteration of watershed-scale hydrologic processes.

Timber Harvest and Slope Stability

The recently completed Landslide Inventory of Whatcom County (Washington Geological Survey, February 2020) identified hundreds of deep-seated landslides in the upper North Fork Nooksack Watershed. A significant portion of the area proposed for regeneration and thinning coincides with these mapped landslides. While some landslides may be relict features, others are known to be active and have produced large-volume debris floods that have caused extensive damage to public and private infrastructure and salmon habitat. Furthermore, timber harvest in steep terrain has the potential to destabilize soils and colluvium and generate debris avalanches and flows which can route for miles once they enter a stream. These hazards are not identified by the Landslide Inventory but pose a similar threat to downstream infrastructure and habitat. To date no loss of life has resulted from these hazards, but significant risk to life safety is interpreted due to the presence of large platted developments on the Canyon and Glacier Creek alluvial fans and the very active SR 542 transportation corridor.

Whatcom County Mitigation Efforts at lower Canyon Creek

Whatcom County has been heavily engaged with the Glacier Springs community along lower Canyon Creek since three sediment-laden floods in November 1989 and November 1990 (two events). Each of these floods was driven by large "rain-on-snow" precipitation events that triggered multiple landslides in the upper Canyon Creek watershed and at the toes of the Jim Creek and Bald Mountain landslides. The latter formed a series of landslide dams which subsequently failed sending large quantities of sediment downstream to the Canyon

Creek alluvial fan. As a result, four homes were destroyed, a private resort was damaged, multiple undeveloped lots and a county road were eroded, and habitat critical to ESA listed North/Middle Fork early Chinook, steelhead, and bull trout and other salmonids was degraded.

In response to community request for assistance, the County built a 3000 foot levee along the west bank of the creek in 1994 as an interim measure to prevent additional damage to the Glacier Springs community and avoid a potential stream avulsion that would sever SR542 west of the Warnick Bridge. The interim structure was subsequently damaged by flooding in 1995. Planning and land acquisition from 1999 to 2012 was followed by phased construction in 2009, 2013 and 2014 of a setback structure and 23 engineered log jams designed to manage flood risk and restore habitat in the lower mile of the creek for salmon, char, and trout. Whatcom County Flood Control Zone District and Whatcom Land Trust were able to acquire the majority of the high risk properties along the eastern edge of Glacier Springs, remove existing structures, and place development restrictions on the parcels purchased to reduce future risk. Total cost of all phases from acquisition and alternatives analysis through final construction was $5.6 million.

Whatcom County Mitigation Efforts at lower Glacier Creek

Additional impacts to public infrastructure and private development may also be exacerbated by thinning proposed in the Glacier Creek watershed. Damage to the Mt. Baker Rim community occurred in 1990 due to flooding and right-bank channel avulsion.
A levee was subsequently constructed along a portion of the floodplain fronting a portion of the development to minimize the potential for future damage, but many residential parcels remain unprotected and the degree of flood protection provided by the levee is undefined.

Public Works is currently working on a risk assessment of the combined Glacier-Gallup alluvial fans. This assessment plus a salmon habitat assessment will provide the data necessary to develop and evaluate alternatives and select a preferred design that will reduce flood risk to the community of Glacier, the Glacier Water District, SR 542, and the Glacier ranger station while restoring salmon habitat on the alluvial fans. The county project is closely coordinated with the Washington Department of Transportation project to replace the existing Glacier Creek bridge with a structure that more fully spans the fan area to reduce flood damages and salmon habitat impacts.

Whatcom County Recommendations for development of the North Fork Nooksack Vegetation Management Plan-

In order to minimize the potential for detrimental impacts associated with the proposed North Fork Nooksack Vegetation Management Plan, Whatcom County deems it imperative that the Forest Service carefully evaluate the proposed actions and select only those alternatives that can be demonstrated to not increase flood risk or result in damage to recovering salmon habitat in Canyon or Glacier Creeks on the Forest lands in the headwaters and downstream to their confluences with the North Fork Nooksack River. To achieve these aims the following actions are recommended:

1. Complete an updated Watershed Analysis to help inform management initiatives, avoidance of landslide hazards, delineate harvest area boundaries, and critical habitat protection initiatives.
2. Clearly delineate areas proposed for thinning, regeneration and stand development and clearly define what those prescriptions will look like on the ground.
3. Complete a detailed slope stability/landslide analysis for any timber removal or road alternatives on the Jim Creek and Bald Mountain landslides and their groundwater recharge areas including any places with indicators of past landside movement, not

just signs of current movement. This analysis should also evaluate the anticipated effects of hydrologic change post-management on deep-seated landslide movement and the potential for landslide dam formation.

4. A detailed analysis of the Jim Creek landslide connector road is needed. The map indicates that this road appears to cross the body and head scarp of the Jim Creek landslide as well as some ground with the potential for shallow/rapid landslides. A similar analysis would be needed on the Bald Mountain Landslide for any existing or new roads needed for timber management. Please note that anecdotal observation indicates that the Bald Mountain Landslide may be currently active and pose a greater hazard than when the USFS watershed analyses were done in the mid-1990's.
5. A susceptibility analysis for shallow and deep-seated landslides should be done for all proposed timber removal or road areas. This request is based on the extensive landslide history in the Canyon Creek watershed such as during the 1989 and 1990 events. While not as dramatic, several shallow landslides formed small landslide dams during those events and combined routed many thousands of yards of sediment to Canyon Creek's channel.

We appreciate the opportunity to provide these comments on the North Fork Nooksack Vegetation Management plan.

Sincerely,

sign for Director

Jon Hutchings
Public Works Director

Cc:
Mark Personius, PDS Director
Ryan Ericson, PDS Natural Resource Manager
Paula Cooper, PW River & Flood Manager