



REQUEST FOR BID ANNOUNCEMENT

DENNY CREEK TRAIL #1014 RECONSTRUCTION Wilderness Portion

MOUNTAINS TO SOUND GREENWAY TRUST

August 5, 2024

Re: Denny Creek Trail #1014 Reconstruction - Request for Bid (RFB)

To whom it may concern:

The Mountains to Sound Greenway Trust (GREENWAY TRUST) invites submission of proposals for Denny Creek Trail #1014 – Wilderness portion, in Mount Baker-Snoqualmie National Forest, in King County, Washington.

This project is supported by a cost-share agreement between Mount Baker-Snoqualmie National Forest and the Mountains to Sound Greenway Trust.

The selected contractor will complete project work under the supervision of the GREENWAY TRUST to USFS specifications.

Please find a full description of the project and bid submission guidelines at:

<https://mtsgreenway.org/about/rfb/>

The RFB is also attached to this email, in case the above link is not yet active.

The deadline for submission of project bids is 5pm on **September 16, 2024**. Work shall be completed by November 1, 2025.

The GREENWAY TRUST reserves the right to negotiate with any and all persons or firms submitting bids, and to award to the bidder that presents the best value to the Greenway Trust as determined solely by the Greenway Trust in its absolute discretion.

All correspondence pertaining to this proposal should be directed to:

Mike Stenger
Recreation Projects Manager
mike.stenger@mtsgreenway.org

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MOUNTAINS TO SOUND GREENWAY TRUST
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Name of SERVICE PROVIDER: _____

Address: _____

Phone: _____

Email: _____

Website: _____

Contact Person's Name: _____

Title: _____

Signature of authorized official: _____

Date: _____

SERVICE PROVIDER shall electronically submit this form and all required documents by 5pm on **September 16, 2024**.

Please submit all documents to:
Mike Stenger
Recreation Projects Manager
mike.stenger@mtsgreenway.org
(206) 849-1796

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The Mountains to Sound Greenway Trust is the non-profit coordinating entity for the Mountains to Sound Greenway National Heritage Area, a unique geographic corridor made up of connected ecosystems and communities spanning 1.5 million acres from Seattle to Ellensburg along Interstate-90 in Washington state.

The Greenway Trust is a coalition-based organization that leads and inspires action to conserve and enhance this special landscape, ensuring a long-term balance between people and nature. We employ a collaborative approach, working with partners to achieve common ground and pragmatic solutions and tangible results. Working with our partners to encourage sustainable recreational access is core to the Greenway Trust’s mission.

PROJECT DESCRIPTION

The Mountains to Sound Greenway Trust (Greenway Trust) in collaboration with the United States Forest Service (USFS) is seeking qualified contractors to complete the Denny Creek Trail Reconstruction project in Mount Baker-Snoqualmie National Forest.

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This project involves reconstruction of 1.4 miles of Denny Creek Trail #1014. All reconstruction work is located within the Alpine Lakes Wilderness Area. The use of helicopters, rock drills and other mechanized equipment have not been approved for this project. Blasting is allowed, with restrictions. Equipment restrictions are listed in Table 5. Work on this project is expected to start as soon as possible and will be complete by November 1, 2025. This project was surveyed from the wilderness boundary to Hemlock Pass (3.7 miles from the trailhead). The project begins at survey point 35+55 (switchback-left, adjacent Keekwulee Falls) and ends at 111+05 (switchback- right toward Hemlock Pass). Project work includes clearing, grubbing and excavation, installation of water bars and drain dips, reconstruction of switchbacks and installation of rock steps.

This project is funded under the Great American Outdoors Act (GAOA) and supported by a cost-share agreement between the USFS, and the Greenway Trust. The NEPA process and permission to proceed have been completed, and further permitting is not required for this project.

The selected SERVICE PROVIDER will be engaged as a CONTRACTOR with the Greenway Trust to complete the Denny Creek Trail Reconstruction project to USFS specifications. (Note that the terms SERVICE PROVIDER and CONTRACTOR are used interchangeably in this document.)

The contractor will be responsible for the purchase of all materials not selected on-site, mobilization, and construction of all other portions of the project.

Work shall be completed before November 1, 2025.

Price Range

Between \$120,000 - \$160,000

PROJECT LOCATION

From Seattle, head east on I-90 to exit 47 Denny Creek/Tinkham Road. At the top of the exit ramp, turn left and cross over the freeway. Go 0.2 miles and turn right at the stop sign onto Forest Road 58. The road crosses under the freeway, after driving 0.2 miles, turn left. Continue straight on for 2.9 miles and about a half mile past the Denny Creek Campground there are three large parking lots on the right that can accommodate about 170 cars. Coordinates for the Denny Creek/Franklin Falls Trailhead are: **47.4130, -121.4431**.

The beginning of project is an estimated 1.8 miles up Denny Creek Trail #1014 and is entirely within the Alpine Lakes Wilderness Area. The end of project is below Hemlock Pass which is 3.7 miles from the trailhead.

PROJECT TIMING

This project shall be completed between the date of fully executed contract and November 1, 2025. The normal construction season at the site is typically May 15th through October 31st in a normal year. Snow conditions can change from year to year and may impact the length of the season.

DEADLINES AND NOTIFICATIONS

Proposals must be signed by a representative that is authorized to commit the SERVICE PROVIDER'S company. Responses to this RFB must be received prior to 5pm Pacific time on the bid submittal deadline. Proposals must remain valid for a period of 60 days.

Table 1: Deadlines

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DEADLINES	DATES
Notify Greenway Trust of intent to submit bid.	September 6, 2024
Bid submittal deadline.	September 16th, 2024
Project proposal acceptance. *	September 20, 2024
Project completion deadline.	November 1, 2025

**The Greenway Trust reserves the right to adjust the proposal acceptance date.*

Pre-Bid Conference

None Scheduled. Contractor may arrange with Greenway Trust PM, based on availability.

An on-site meeting may be scheduled between a SERVICE PROVIDER and the selection team if Greenway Trust needs additional information to support the selection of a qualified SERVICE PROVIDER.

EVALUATION FACTORS

The Greenway Trust will rate proposals based on the following factors, with cost and adherence to project timeline being the most important factors:

1. Responsiveness to the requirements set forth in this *Request for Bid*
2. Relevant past projects including examples of work and references.
3. Unit pricing and total bid amounts.
4. Technical expertise/experience of bidder and bidder’s staff.
5. Ability to respond to Greenway Trust schedules and timeline.

The Greenway Trust reserves the right to award the bidder that presents the best value to the Greenway Trust as determined solely by the Greenway Trust in its absolute discretion.

SUBMISSION GUIDELINES AND REQUIREMENTS

The following submission guidelines and requirements apply to this *Request for Bid*:

Bidders (SERVICE PROVIDER) should notify the Greenway Trust of their intent to submit a bid. Notification should be made by email.

Complete bid responses will include the following items. Include additional information as separate attachment(s).

Proposed costs as detailed in the SCHEDULE OF ITEMS.

Hourly rates/costs for any items not included in the SCHEDULE OF ITEMS including labor and machine/power equipment, if applicable. (Attached cost/rate sheet is preferred.)

If you have a standard set of terms and conditions, please submit them with your proposal. All terms and conditions will be subject to negotiation.

Table 2: Project Schedule & Milestones

Proposed project schedule and milestones. This project must be completed by the project deadline of **November 1, 2025**. SERVICE PROVIDER must submit a project schedule with milestones outlining their plan for meeting the deadline. Please use the following table or attach information separately:

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Lower segment: work between BOP 35+55 and slide path at 77+40		
Start Date	Completion Date	Project Approach
Upper segment: work between slide path at 77+40 & EOP 111+05 (switchback-right)		
Start Date	Completion Date	Construction Approach

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Table 3: Reference Projects

A list of at least two projects that are substantially similar to this project, including references for each. Examples of work should be provided. Please use the following table or attach information separately:

Project #1 Name	
Project Location	
Project Owner/Agency	
Contact Name / Phone / Email	
Brief Description of Work	
Completion Date	
Project Cost	

Project #2 Name	
Project Location	
Project Owner/Agency	
Contact Name / Phone / Email	
Brief Description of Work	
Completion Date	
Project Cost	

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Table 4: Schedule of Deliverables

Item #	Task	Qty	Unit	Unit Price	Subtotal
907-01	Mobilization	1	LS	\$	\$
911-01/ 912-02	Trail Construction - Excavation, Clearing, Grubbing	7385	LF	\$	\$
917-10-01	Natural Ford - Reconstruction	2	EA	\$	\$
921-01	Culvert - Reset	2	EA	\$	\$
922-10-01	Rock Waterbar	5	EA	\$	\$
922-11-01	Rock Waterbar - Reconstruction	4	EA	\$	\$
925-01	Parallel Drain	65	LF	\$	\$
925-11	Ditch Maintenance	65	LF	\$	\$
927-10-01	Drain Dips	43	EA	\$	\$
927-11-01	Drain Dips - Reconstruction	5	EA	\$	\$
927-12-01	Drain Dips - Armored	3	EA	\$	\$
931-20-01	Switchback Reconstruction	21	EA	\$	\$
932-10-01	Rock Turnpike	115	LF	\$	\$
932-11-01	Rock Turnpike- Reconstruction	45	LF	\$	\$
936-10-02	Individual Steps – Stone	127	EA	\$	\$
936-11-02	Rock Step - Reconstruction	4	EA	\$	\$
936-20-01	Overlapping Rock Steps	3	EA	\$	\$
Subtotal					\$
Tax (8.7%)					\$
TOTAL					\$

Organization/Company		
Email		Date
Contact name		
Authorizing Signature		

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SPECIAL CONTRACT REQUIREMENTS

INSURANCE AND PREVAILING WAGE

The SERVICE PROVIDER is required to maintain Commercial General Liability (CGL) Insurance (\$2,000,000 general aggregate limit.) Employers Liability (Stop Gap) Insurance (\$1,000,000 per accident) and Business Auto Policy (BAP) Insurance (\$1,000,000 per accident.) SERVICE PROVIDER must submit proof of insurance and be prepared to name the Mountains to Sound Greenway Trust as additionally insured to be awarded this project.

The SERVICE PROVIDER will be required to abide by Davis-Bacon and Related Acts (DBA) which applies to contractors and subcontractors performing work on federal contracts.

The contractor shall notify the Greenway Trust Project Manager (“Greenway Trust PM”) when leaving the project area for three or more days and within 24 hours after returning to the project area. Each week, unless otherwise approved, the Contractor shall report his location and progress to the Greenway Trust PM to permit timely inspection and acceptance of completed work by Greenway Trust.

USE OF PREMISES

- (a) Before any camp, quarry, borrow pit, storage, detour, or bypass site, other than shown on the drawings, is opened or operated on USDA land or lands administered by the USDA, written permission shall be obtained through the Contracting Officer. A camp is interpreted to include the campsite or trailer parking area of any employee working on the project for the Contractor.
- (b) Camp sites and trailer parking areas used by any employee working on the project for the contractor shall be kept neat and clean. There shall be no improvements made to the site.
- (c) Unless provided otherwise, the Contractor shall: (i) provide and maintain sanitation facilities for the workforce at the site and (ii) dispose of solid waste in accordance with applicable Federal, State, and local regulations.
- (d) Designated Camp: The contractor may use the former (gated) trailhead area along the main Denny Creek Trail. Any other campsite proposal by the contractor will be approved in advance by the USFS.
- (e) Campfires are not allowed at campsites.
- (f) Dogs are required to be leashed on all trails and camp areas.
- (g) Food Preparation & Cooking: (1) Unattended attractants (human foods, soft drinks and alcoholic beverages, cosmetics and toiletries, pet foods, processed livestock feed and grains, cooking residue, empty food containers, and other refuse) will be unavailable to wildlife by either storing in IGBC tested and certified bear resistant containers, or by hanging 10 or more feet above ground level, 4 or more feet from the hanging structure, and 100 or more feet from sleeping areas. Attractants will be considered attended when non-sleeping people are within 80' of the attractants. (2) Food preparation, cooking, and cleaning areas will be 100 or more feet from sleeping areas.

LANDSCAPE PRESERVATION

- (a) The Contractor shall confine operations to Project Area or other areas designated in contract documents and prevent the depositing of rocks, excavated materials, stumps, or other debris outside of these limits. Material, which falls outside of these limits shall be retrieved, disposed of, or incorporated in the work as directed by the Contracting Officer.
- (b) Prevention of Oil Spills. If the Contractor maintains storage facilities for oil or oil products onsite,

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appropriate preventive measures shall be taken to ensure that any spill of such oil or oil products does not enter any stream or other waters of the United States or any of the individual states.

Servicing of all equipment shall be done only in the area approved by the Contracting Officer.

If the total oil or oil products storage exceeds 1,320 gallons or if any single container exceeds a capacity of 660 gallons, the Contractor shall prepare a Spill Prevention Control and Countermeasures (SPCC) Plan. Such plan shall meet applicable EPA requirements (40 CFR 112) including certification by a registered professional engineer.

The Contractor will be required to make reasonable attempts to preserve the scenic and natural environment along this construction project.

(c) Trash and Refuse - Contractor shall remove all of his own trash and refuse from the contract area.

Material to be removed includes, but is not limited to; used engine oil, oil filters, oil cans, grease cartridges, camp refuse such as tin cans, paper, garbage, etc. This material must be removed to a State, County, or Municipality designated solid waste disposal area. Garbage generated by living and working in the backcountry will be secured from wildlife and packed out at least every two weeks.

(d) Tree and Bark Damage: Trees used as anchors or spar poles for cable yarding of construction materials (i.e., bridge beams, barrier logs) shall be protected from bark damage and girdling. Chokers (nylon web, chains, or cable) shall be shimmed and will not have direct contact with live bark.

USE OF MOTORIZED EQUIPMENT & NOISE RESTRICTIONS

Motorized equipment has not been approved for use on this project. Blasting is allowed as listed below. There will be no blasting on weekends or holidays unless approved in advance by the CO.

Table 5: Equipment

EQUIPMENT OPERATING SEASONS	EQUIPMENT OPERATING SEASONS
Chain Saws	NOT ALLOWED
Gasoline Brushers	NOT ALLOWED
Gasoline Rock Drills	NOT ALLOWED
Gasoline Wood Drills	NOT ALLOWED
Gasoline Generators	NOT ALLOWED
Power Wheelbarrow	NOT ALLOWED
Excavator	NOT ALLOWED
Bobcat (Small Loader)	NOT ALLOWED
Helicopters	NOT ALLOWED
Blasting	3/1 – 8/5: NOT ALLOWED. 8/6 – 9/23: Construction activities are allowed from 2 hours after sunrise to 2 hours before sunset. 9/24 – 2/28: NO RESTRICTIONS

RESPONSIBILITY FOR BLASTING

Federal Alcohol, Tobacco, and Firearms (ATF) regulations went into effect in 2003. Refer to the ATF Internet web site www.atf.gov for detailed information on federally required permits. Trail construction personnel responsible for blasting are required to comply with all Washington State and Federal Regulations regarding certification, purchasing of explosives, storage, transportation, and use. All blasting operations shall be conducted under the direct supervision of a qualified blaster possessing a valid Washington State User's (blasters) License. An approved and certified storage magazine will be required. A Commercial Driver's License with explosives endorsement and proper documentation is required for transportation.

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- a) A blasting plan with an estimate of: pounds of explosives; methods of blasting; name of licensed blaster; and license information, and a plan for protection and safety of the public and contract and FS personnel will be required. The plan will be submitted for review at least 7 days prior to any blasting activity.
- b) Explosive Magazines shall be inspected by a Washington State Labor and Industries inspector and approved for use by them at each project site prior to beginning of the blasting project.
- c) Prior to the firing of each blast, watchmen shall be posted a minimum 750 feet airline distance on trail or road locations that are within the blast area. All traffic will be stopped a minimum of 750 airline feet from the blast area.
- d) The Blaster and other personnel shall be a minimum of 500 airline feet from the blast area.
- e) The contractor shall provide warning signs that conform to the Manual of Uniform Traffic Control Devices for Streets and Highways when blasting operations are conducted or are within 1000 feet of a road or trail.
Contract No. AG-05M6-C-16-0023 Talapus Lake Trail #1039 Relocation Page 16 of 90
- f) Blasting machines will be either Capacitor Discharge or Generator Blasting machines for all electric detonators. Non-Electric detonating devices will be used for all Non-Electric detonators. Cap and Fuse will not be allowed.
- g) Each loaded hole shall be marked with red ribbon. These shall be checked following each blast. Following each individual blast, ribbons, and lead wire shall be collected. If a misfire is found, the blaster shall provide proper safeguards for excluding all persons from the danger zone. No misfires of loaded holes shall be left unattended.
- h) All heavy rock construction areas, requiring the use of explosives, shall be scaled on and around the blast surface following each blast.
- i) Blasting will only be permitted during the daylight hours and will cease by 6:00pm daily. Blasting activity will be prohibited from 12 noon Friday until 12 noon on Monday and on legal holidays.
- j) Blasting within military training flight zones requires a 72 hour notice to the COR. Specify the location and time of the blasting. Radar equipment on fighter jets may cause premature detonation of electric caps.
- k) No blasting will occur on weekends or holidays.
- l) Projected use of alternative rock breaking or stump removal methods that don't use high explosives will not change the above requirements unless approved in advance by the CO.

ADDITIONAL BLASTING REQUIREMENTS TO MITIGATE SOUNDS AND VIBRATION OF BLAST:

- 1) The contractor shall not use explosives between the periods of two hours before sunset to two hours after sunrise.
- 2) Where rock drill use has been approved the contractor shall not use surface shots.
- 3) All shots shall be fired in pre-drilled or dug holes that are properly stemmed or back-filled. Place sandbags over loaded holes, in conjunction with the air-gapping technique to increase stemming.
- 4) The contractor shall not use cap and fuse.
- 5) The contractor shall not exceed a powder factor of one-half pound of explosives per cubic yard of solid rock. Do not exceed 1/4 pound per cubic yard of explosive when air gapping boulders. For tree cutting and stumps, use $W(\text{weight of explosive}) = .004 D^2$. For stump use one pound per foot diameter at ground level.

LOCAL MATERIALS SOURCES

All borrow areas shall be approved in advance by the Greenway Trust PM or designated representative and shall be so located and excavated as to be screened from the trail way.

DISPOSAL OF CONSTRUCTION DEBRIS & EXCESS MATERIALS

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Any excess materials and/or construction debris shall be disposed of at a site and in a manner approved by the Greenway Trust PM.

CLEAN-UP

In addition to the aforementioned requirements, the contractor shall remove all construction stakes, tags, and plastic flagging located within the project area within five days after the final acceptance of all other work on the project.

BARRICADES, WARNING SIGNS, AND OTHER DEVICES

Approved signs shall be placed at the trailhead and all trail junctions to notify the public of the construction activity. The contractor will be responsible for all on-site signing.

MAINTENANCE OF TRAFFIC

The Denny Creek Trail #1014 will be closed to the public Mondays through Fridays during construction. Otherwise the contractor is responsible for any occasional closures that may be required for construction activities. The contractor is responsible for maintaining signing and barricades.

OTHER CONTRACTORS AND ADMINISTRATIVE CREWS

Other Contractor(s) or trail crews may be working adjacent to the project site. The Contractor shall fully cooperate with the other Contractor(s) and work crews, including planning, scheduling, and timely notification of construction activities.

PRODUCT SUBSTITUTIONS, SHOP DRAWINGS AND MATERIAL CERTIFICATION

Any modification of other items, designs, materials, products, or equipment (including Government-furnished property), made necessary because of a substitution, will be the responsibility of the Contractor without adjustment in contract price or time. The Greenway Trust approval of any substitute will not affect the Contractor's responsibility for such modification. The Contractor will request any and all substitutions, after award of the contract has been made. No approvals will be made prior to award.

FIRE PROTECTION & SUPPRESSION

The following fire requirements are attached to this document (Appendix C) and/or found online, and are applicable.

- Fire Protection and Suppression, R6-FS-6300-50 (4/87)
- Additional Fire Precautionary Measures - Communications, R6-FS-6300-54 (2/84)
- Fire Plan, R6-FS-6300-55 (2/84) (Form to be filled out by contractor upon bid award and submitted to Greenway Trust PM before beginning construction).

Disposal by burning will not be allowed.

EMERGENCY CONTROL (USDA 452.236-77) (FEB 1988)

(a) Contractor's Responsibility of Fighting Fire. The Contractor, under the direction of the Forest Supervisor or, in the absence of said officer, acting independently, shall immediately extinguish all fires on or in the vicinity of the project. If it is determined subsequently by the USFS that a fire was caused by the Contractor or the Contractor's

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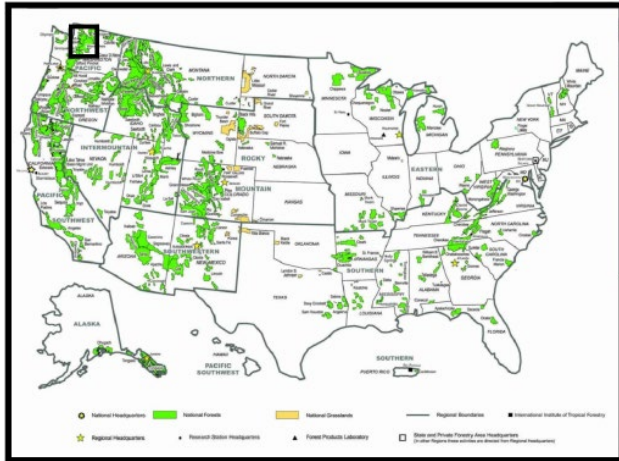
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agents or employees, whether caused directly or indirectly as a result of Contractor operations, the Contractor's cost relating to extinguishing the fire shall not be reimbursed by the Greenway Trust or by the Government and shall be the sole responsibility of the Contractor. In addition, the Contractor may be held liable for all damages on costs incurred by the Government for labor subsistence, equipment, supplies, and transportation deemed necessary to suppress a fire set or caused by the Contractor or the Contractor's agent or employees.

(b) Contractor's Responsibility for controlling Other Emergencies. When requested by the USFS, the Contractor shall allow the Forest Service to temporarily use not less than the current area rate established by the Forest Service. Employees and equipment will be released from emergency operations when other labor and equipment adequate for the protection of the area is obtained.

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APPENDIX A: Vicinity Map, Drawings and Specifications



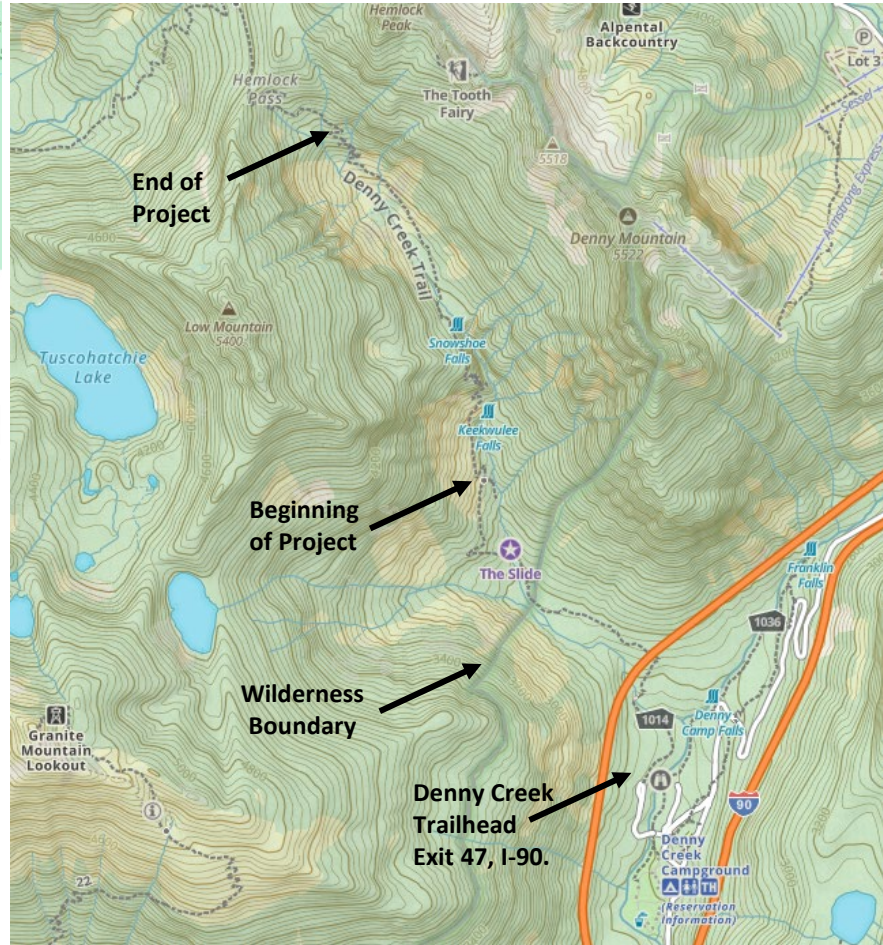
FOREST LOCATION

Project Access:

Coordinates for the Denny Creek/
Franklin Falls Trailhead are:

47.4130, -121.4431.

The beginning of project is 0.6 miles
(3080 LF) up Denny Creek Trail #1014
and is entirely within the Alpine Lakes
Wilderness Area.



PROJECT LOCATION



Adapted from:

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
STANDARD TRAIL PLAN

PROJECT NAME **DENNY CREEK TRAIL #1014**
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

DRAWING NAME **VICINITY MAP**
SECTION 900 - GENERAL TYPICAL ID VCM

REVISION DATE **XX/XX/XX**
NO SCALE

DRAWING NO. **STD_900-02**
SHEET **1 of 19**

From (LF)	To (LF)	Quantity (LF)	Unit (LF)	Grade	Existing	Description of Work	Comments	Pay Item	RP's
35+55	111+06	LF				Trail Construction - Excavation, Clearing, Grubbing	Beginning & End of Project	911-01/912-02	X
35+55		EA	1		Switchback	Switchback Reconstruction	SWBL-2: BOP	931-20-01	X
36+30		EA	1		Switchback	Switchback Reconstruction	SWBR-3	931-20-01	X
36+30	36+33	EA	3	25		Overlapping Rock Steps		936-20-01	
36+33	36+50	EA	5	25		Rock Step		936-10-02	
37+00		EA	1		Switchback	Switchback Reconstruction	SWBL-4	931-20-01	X
37+20		EA	1		Drain Dip	Drain Dip Rebuild		927-11-01	
36+00	38+50	EA	4		Rock Steps	Reconstruct Rock Steps		936-11-02	
38+60		EA	1		Switchback	Switchback Reconstruction	SWBR-5	931-20-01	X
38+60	39+20	EA	10	30		Rock Step		936-10-02	
39+40		EA	1		Switchback	Switchback Reconstruction	SWBL-6	931-20-01	X
40+10		EA	1			Drain Dip		927-10-01	
40+20	40+60	EA	6	23		Rock Step		936-10-02	
40+60		EA	1		Switchback	Switchback Reconstruction	SWBR-7	931-20-01	X
40+60	40+73	EA	9			Rock Step		936-10-02	
41+50		EA			Switchback	Switchback Reconstruction	SWBL-8	931-20-01	X
42+00		EA	1			Drain Dip		927-10-01	
42+35		EA	1		Switchback	Switchback Reconstruction	SWBR-9	931-20-01	X
42+80	43+30	EA	5	22		Rock Step		936-10-02	
43+65		EA	1		Switchback	Switchback Reconstruction	SWBL-10	931-20-01	
43+65						Steps on uphill exiting Switchback between Stitches		936-10-02	
44+40	44+40	EA	13	26		Rock Step		931-20-01	X
45+00		EA			Switchback	Switchback Reconstruction	SWBR-11	931-20-01	X
45+70		EA	1		Drain Dip	Drain Dip Rebuild	SWBL-12	931-20-01	X
46+05		EA	1		Switchback	Switchback Reconstruction	SWBR-13	931-20-01	X
46+45		EA	1		Drain Dip	Drain Dip Rebuild		927-11-01	
47+15		EA	1		Switchback	Switchback Reconstruction	SWBL-14	931-20-01	X
47+80		EA	1			Drain Dip		927-10-01	
48+75		EA	1			Drain Dip		927-10-01	
49+25		EA	1		Switchback	Switchback Reconstruction	SWBR-15	931-20-01	X
49+25	50+20	EA	5	20		Rock Step		936-10-02	
49+45		EA	1			Drain Dip		927-10-01	
50+40		EA	1			Drain Dip		927-10-01	
50+40	51+05	EA	7	25		Rock Step		936-10-02	
50+70		EA	1			Drain Dip		927-10-01	
51+35		EA	1		Rock Water Bar	Reconstruct Rock Water Bar		922-11-01	
51+35	52+55	EA	6	18		Rock Step		936-10-02	
52+20		EA	1			Drain Dip		927-10-01	
52+80		EA	1			Drain Dip		927-10-01	
54+20	54+55	LF	45		Parallel Drain	Rebuild Parallel Drain	80% existing/ use existing culverts	925-11	
54+20	54+55	LF	45		Rock Turnpike	Rebuild Rock Turnpike		932-11-01	
55+20		EA	1			Drain Dip		927-10-01	
56+10		EA	1			Drain Dip		927-10-01	
56+45		EA	1			Drain Dip		927-10-01	

Adapted from:



PROJECT NAME: **DENNY CREEK TRAIL #1014**
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

DRAWING NAME: **TRAIL SURVEY**
 SEC: _____ ID: _____
 300 - GENERAL vcm

REVISION DATE: **XX/XX/XX**
NO SCALE

DRAWING NO. **STD_900-02**
 SHEET **2 of 19**

Denny Creek Trail #1014 Survey 2023

From (LF)	To (LF)	Quantity (LF)	Unit (LF)	Grade	Existing	Description of Work	Comments	Pay Item	RP's
56+50	57+50	EA	1			Drain Dip		927-10-01	
56+50	57+50	EA	3			Rock Step		936-10-02	
57+50	58+25				Rock Turnpike			-	
58+30	58+45	LF	15			Rock Turnpike		932-10-01	
58+45		EA	1			Rock Water Bar		922-10-01	
58+75		EA	1			Drain Dip		927-10-01	
59+05		EA	1			Drain Dip		927-10-01	
59+30		EA	1			Drain Dip		927-10-01	
61+95		EA	1			Drain Dip		927-10-01	
62+95		EA	1			Drain Dip		927-10-01	
63+15		EA	1			Drain Dip		927-10-01	
63+45		EA	1			Drain Dip		927-10-01	
64+10	65+00	EA	1		Creek Crossing	Clean Ford		917-10-01	X
65+25	65+35	EA	2			Rock Step		936-10-02	
65+75		EA	1			Drain Dip		927-10-01	
65+80	65+95	EA	3	1.5		Rock Step		936-10-02	
66+10	66+30	LF	20		Parallel Drain	Parallel Drain	Rebuild Parallel Drain	925-11	
66+30		EA	1			Rock Step		936-10-02	
66+50	66+60	LF	10			Parallel Drain		925-01	
66+85		EA	1			Drain Dip		927-10-01	
67+15		EA	1		Culvert	Reset Culvert	Bury Exposed Culvert	921-01	
67+25		EA	1			Drain Dip		927-10-01	
67+60		EA	1			Drain Dip		927-10-01	
67+65		EA	1			Drain Dip		927-10-01	
67+65	68+10	LF	45		Parallel Drain	Turnpike	Rock Turnpike	932-10-01	
68+55		EA	1		Rock Water Bar	Reconstruct Rock Water Bar		922-11-01	
68+70		EA	1		Drain Dip	Drain Dip Rebuild		927-11-01	
68+75		EA	1		Drain Dip	Drain Dip Rebuild		927-11-01	
69+20		EA	1		Culvert	Reset Culvert		921-01	
69+35	69+55	LF	20		Punchcon Bridge	Turnpike	Remove existing Punchcon and replace with Rock Turnpike, with Parallel drain and two lead offs	932-10-01	
70+00	70+15				Parallel Drain	Rebuild Parallel Drain	No work use existing culvert	925-01	
70+60	70+90	LF	20		Armored Drain			-	
71+05								-	
71+45	71+80	LF	35			Turnpike		932-10-01	
71+85	72+15	EA	4	2.5		Rock Step		936-10-02	
72+45		EA	1		Rock Water Bar	Reconstruct Rock Water Bar		922-11-01	
72+45	72+70	LF	35		Culvert	Parallel Drain		925-01	
72+90	73+05	EA	1			Armored Drain Dip		927-11-01	
73+50		EA	1			Drain Dip		927-10-01	
74+35		EA	1			Drain Dip		927-10-01	
74+70		EA	1			Drain Dip		927-10-01	

Adapted from:



PROJECT NAME: **DENNY CREEK TRAIL #1014**
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

DRAWING NAME: **TRAIL SURVEY**
 SEC: _____ ID: _____
 300 - GENERAL VCM

REVISION DATE: **XX/XX/XX**
NO SCALE

DRAWING NO. **STD_900-02**
 SHEET **3 of 19**

Denny Creek Trail #1014 Survey 2023

From (LF)	To (LF)	Quantity (LF)	Unit (LF)	Grade	Existing	Description of Work	Comments	Pay Item	RP's
75+20	77+40	EA	1		Start of Slide Path	Drain Dip		927-10-01	
75+60	80+00	EA	1			Drain Dip		927-10-01	X
80+00	80+40	EA	1		Seasonal Stream Channel	Drain Dip		927-10-01	
80+15	81+15	EA	1			Armored Drain Dip		927-11-01	
82+45	86+00	EA	1		Seasonal Stream Channel	Drain Dip		927-10-01	
83+00	87+20	EA	1		Talus Field	Armored Drain Dip		927-11-01	
87+20	88+00	EA	1			RP at Both Beginning and End		-	X
88+00	88+25	EA	1			Drain Dip		927-10-01	
88+25	88+40	EA	1			Drain Dip		927-10-01	
88+40	88+80	EA	1	29		Rock Water Bar		922-10-01	
88+80	89+80	EA	1			Clean Ford		917-10-01	
89+80	91+50	EA	3	29		Rock Step		936-10-02	
91+50	92+40	EA	2	35		Rock Step		936-10-02	
92+40	92+70	EA	1			Drain Dip		927-10-01	
93+30	93+60	EA	4	29		Rock Step		936-10-02	
93+60	94+00	EA	1			Drain Dip		927-10-01	
94+00	95+35	EA	1		Switchback	Rock Water Bar		927-10-01	
95+35	95+55	EA	3			Switchback Reconstruction	SWBR - 1	931-20-01	X
96+15	97+40	EA	1		Rock Water Bar	Rock Step		936-10-02	
97+40	97+75	EA	4	29	Switchback	Reconstruct Rock Water Bar		922-11-01	
98+25	99+15	EA	1		Switchback	Switchback Reconstruction	SWBL - 2	931-20-01	X
99+15	101+00	EA	1		Switchback	Rock Step		936-10-02	
101+40	101+85	EA	1		Switchback	Drain Dip		927-10-01	
101+85	102+35	EA	4	26	Switchback	Switchback Reconstruction	SWBR - 3	931-20-01	X
103+40	103+90	EA	5	30	Switchback	NO WORK		-	
103+90	105+40	EA	1		Switchback	Switchback Reconstruction	SWBL - 4	931-20-01	X
105+40	106+50	EA	1		Switchback	Switchback Reconstruction	SWBR - 5	931-20-01	X
107+15	107+80	EA	6	24	Switchback	Rock Step		936-10-02	
108+00	108+45	EA	1		Switchback	Rock Water Bar		922-10-01	
108+45	109+65	EA	1		Switchback	Rock Step		936-10-02	
109+65	110+25	EA	9	27	Switchback	Switchback Reconstruction	SWBL - 6	931-20-01	X
110+25	111+05	EA	1		Switchback	Switchback Reconstruction	SWBR - 7	931-20-01	X
		EA	1		Switchback	Drain Dip		927-10-01	
		EA	6	24		Rock Step		936-10-02	
		EA	1		Switchback	Drain Dip		927-10-01	
		EA	1		Switchback	Switchback Reconstruction	SWBL-8	931-20-01	X
		EA	1		Switchback	Drain Dip		927-10-01	
		EA	9	27		Rock Step		936-10-02	
		EA	1		Switchback	Drain Dip		927-10-01	
		EA	1		Switchback	Switchback Reconstruction	SWBR-9; EOP	931-20-01	X

Adapted from:

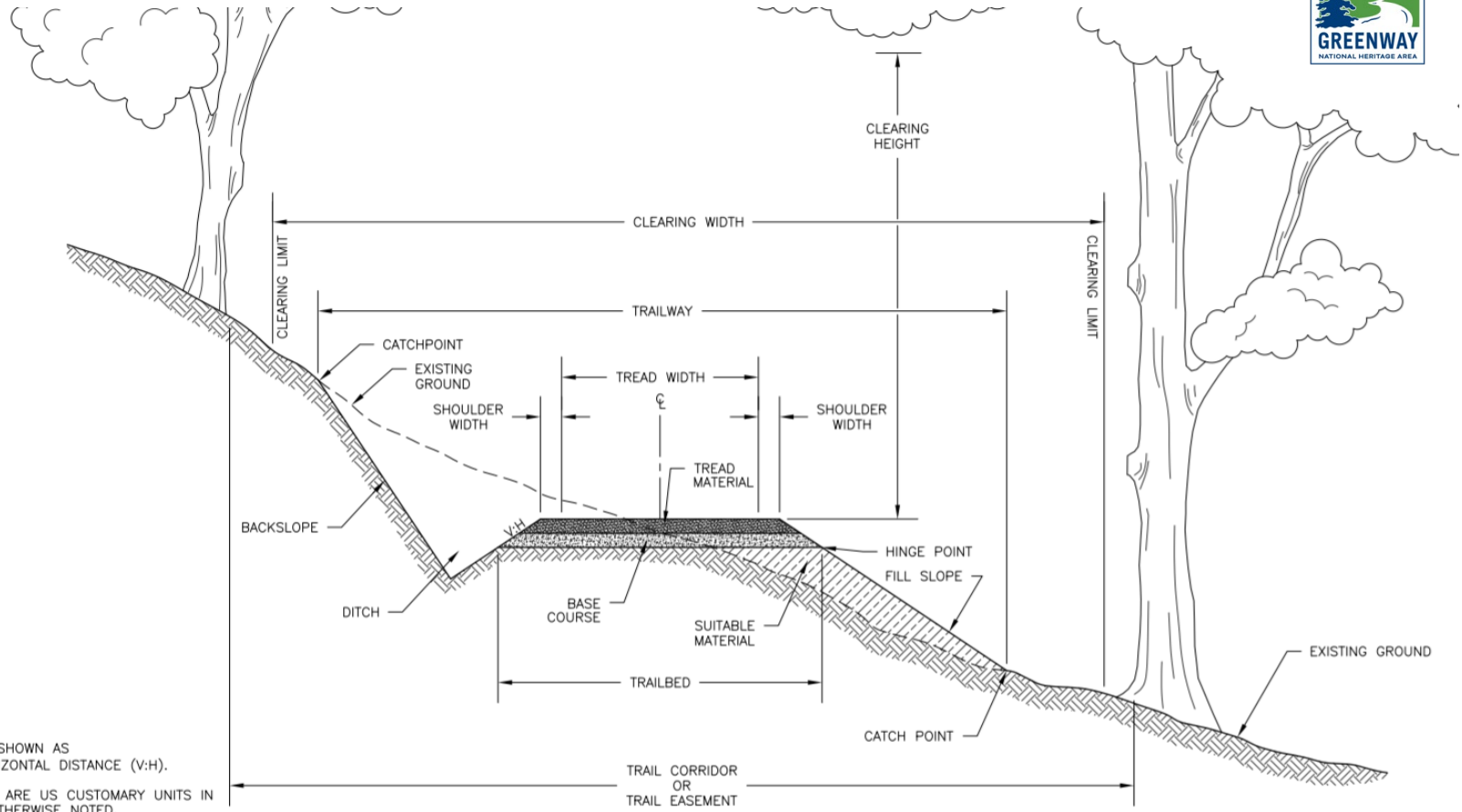


PROJECT NAME: **DENNY CREEK TRAIL #1014**
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

DRAWING NAME: **TRAIL SURVEY**
 SEC: **300 - GENERAL**

REVISION DATE: **XX/XX/XX**
NO SCALE

DRAWING NO.: **STD_900-02**
 SHEET: **4 of 19**



NOTES:
 ALL SLOPES ARE SHOWN AS VERTICAL-TO-HORIZONTAL DISTANCE (V:H).
 ALL UNITS SHOWN ARE US CUSTOMARY UNITS IN INCHES UNLESS OTHERWISE NOTED.

Adapted from:

U.S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE

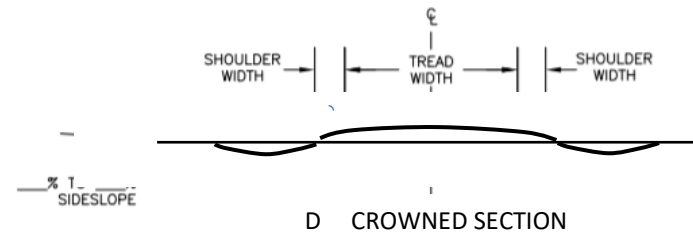
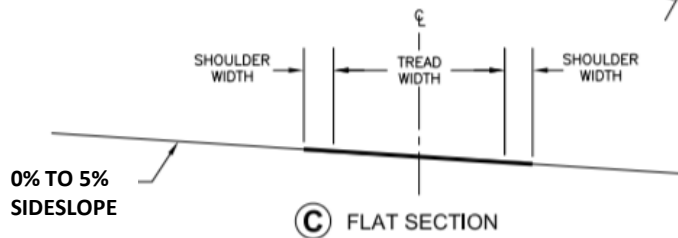
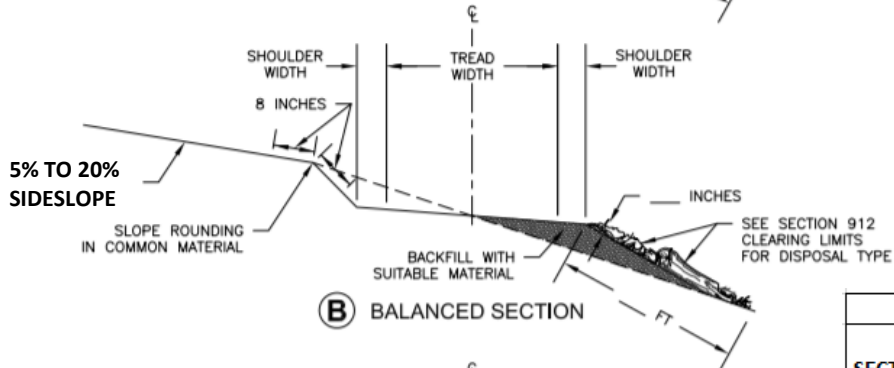
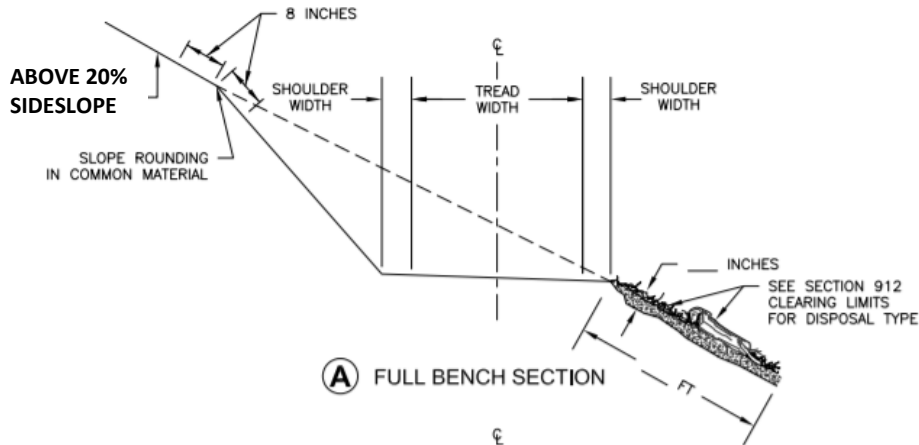
STANDARD TRAIL PLAN

PROJECT NAME **DENNY CREEK TRAIL #1014**
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

DRAWING NAME **STANDARD TRAIL TERMS**
 SECTION **910 - TRAILWAY** TYPICAL ID **STT**

DRAWING NO. **STD_910-01**
 SHEET **5 of 19**

TYPICAL TRAIL CROSS SECTIONS



TREAD CROSS SLOPE				
SECTION TYPE	TREAD WIDTH	SHOULDER WIDTH	CROSS SLOPE*	COMMENTS
FULL BENCH	2 - 3FT	6 IN	3% TO 5%	REMOVE AND/OR REDUCE
BALANCED				EMBEDDED ROOT AND ROCK THAT
FLAT				PROTRUDES MORE THAN 3".
CROWNED				CROWN TO PLUS 4 TO 6 IN.
*MAXIMUM FOR OUTSLOPE, INSLOPE, FLAT & CROWNED SECTION.				

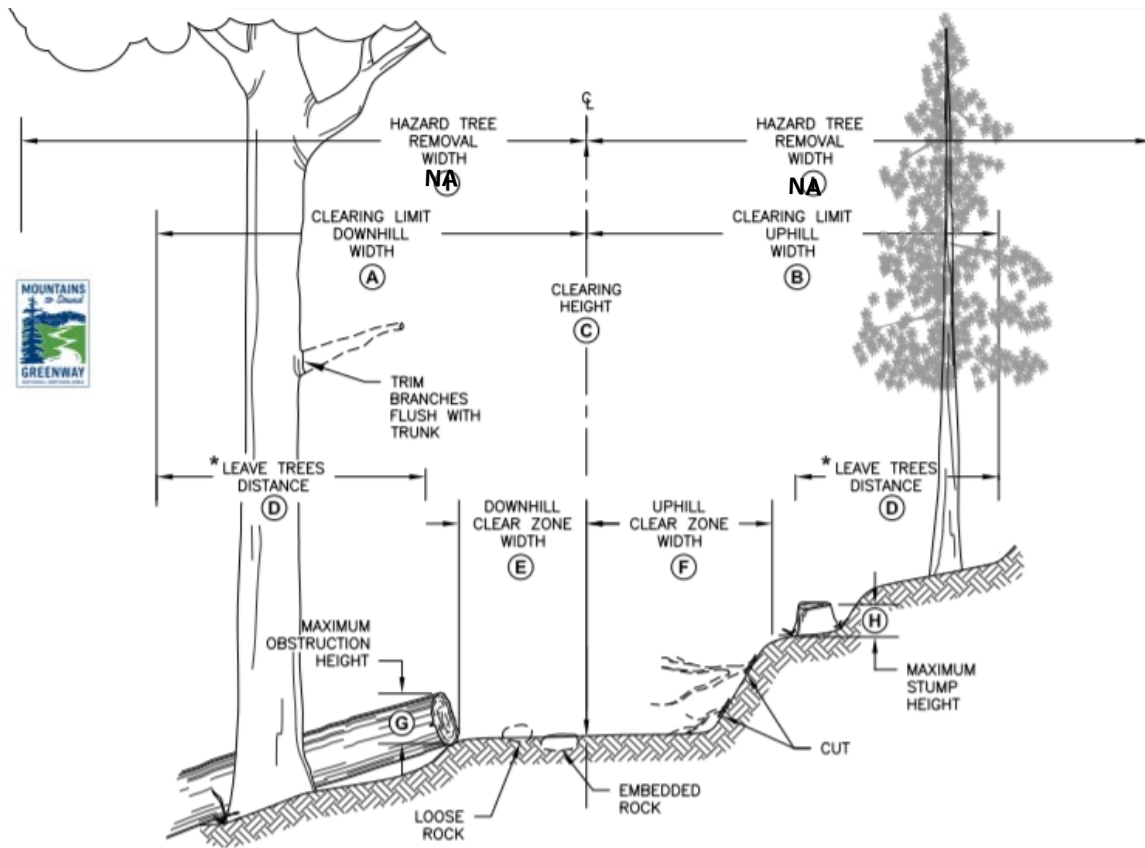
Adapted from:

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
STANDARD TRAIL PLAN

PROJECT NAME: **DENNY CREEK TRAIL #1014**
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

DRAWING NAME: **TYPICAL CROSS SECTION & SLOPE FINISH**
SECTION: 911 - TREAD AND PRISM
TYPICAL ID: TSF/TCS

DRAWING NO.: **STD_911-01**
SHEET: **6 of 19**



CLEARING LIMITS - TREES AND LOGS											
CLEARING METHOD	CLEARING LIMITS			LEAVE TREES		CLEAR ZONE			STUMPS	HAZARD TREE	COMMENTS
	DOWN HILL WIDTH	UPHILL WIDTH	CLEARING HEIGHT	DISTANCE (FEET)	DIAMETER (INCHES)	DOWN HILL WIDTH	UPHILL WIDTH	MAX OBSTRUCTION HEIGHT	MAX HEIGHT	REMOVAL WIDTH	
	A	B	C	D		E	F	G	H	I	
NEW CONSTRUCTION	5 FT	5 FT	8 FT	4 FT	10 IN	4 FT	4 FT	32 IN	6 IN	NA	NO CLEARED TREES LEFT SUSPENDED ABOVE GROUND

LEAVE TREES SHOULD BE LIVE, SOUND & UNDAMAGED WITH UNCOMPROMISED ROOT SYSTEMS.

HAZARD TREES ARE STANDING OR LEANING DEAD TREES LARGER THAN 8 INCHES IN DIAMETER AND GREATER THAN 90 FEET IN HEIGHT.

Adapted from:

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
STANDARD TRAIL PLAN

PROJECT NAME & **DENNY CREEK TRAIL #1014**
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

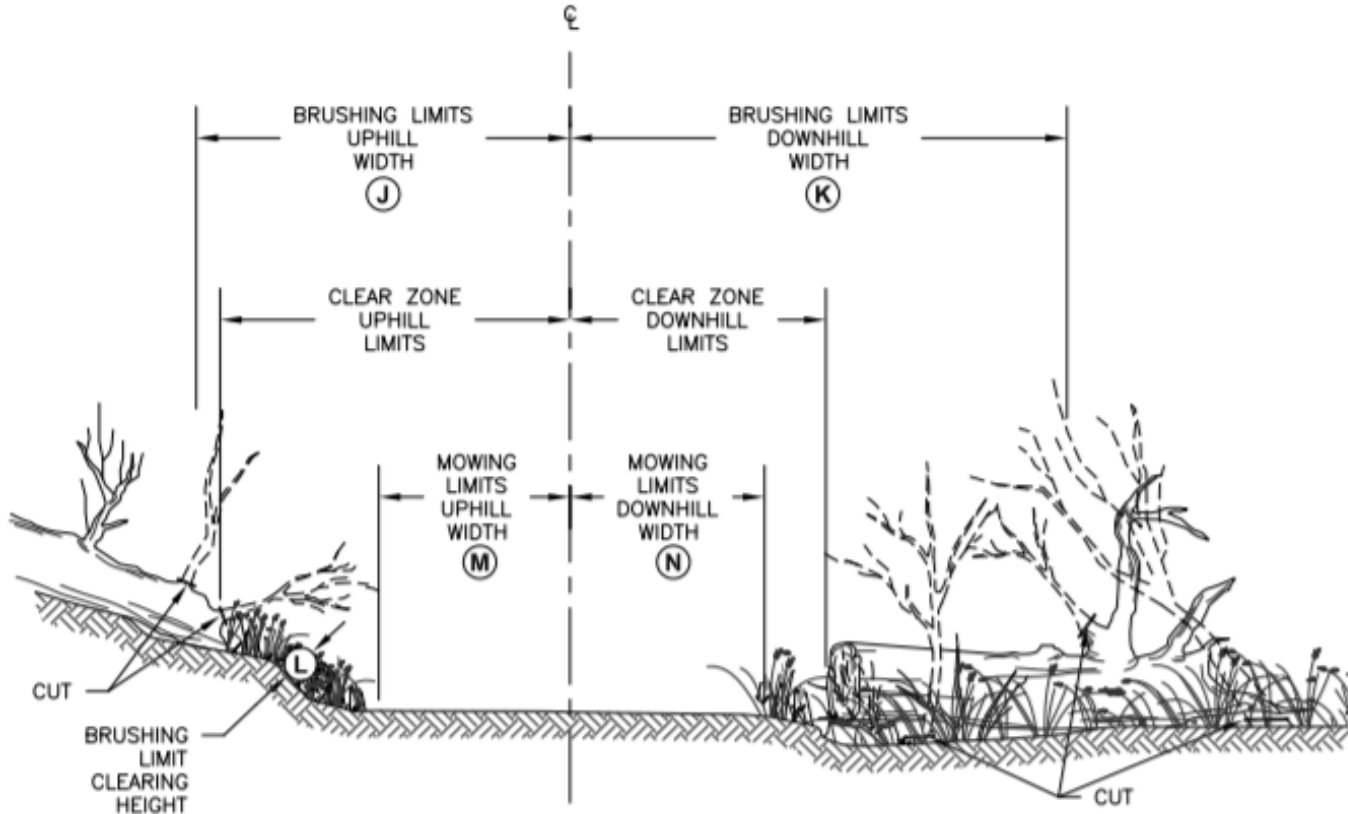
DRAWING NAME
CLEARING LIMITS-TREES AND LOGS
SECTION
912 - CLEARING LIMITS
TYPICAL ID
CLT

REVISION DATE
XX/XX/XX
NO SCALE

DRAWING NO.
STD_912-01
SHEET
7 of 19



CLEARING LIMITS - BRUSHING						
CLEARING METHOD	UPHILL WIDTH	DOWN HILL WIDTH	CLEARING HEIGHT	UPHILL WIDTH - MOWING	DOWN HILL WIDTH - MOWING	COMMENTS
	J	K	L	M	N	
BRUSHING LIMITS	4 FT	4 FT	6 IN	N/A	N/A	LOP AND SCATTER ON FILL SLOPE.



Adapted from:

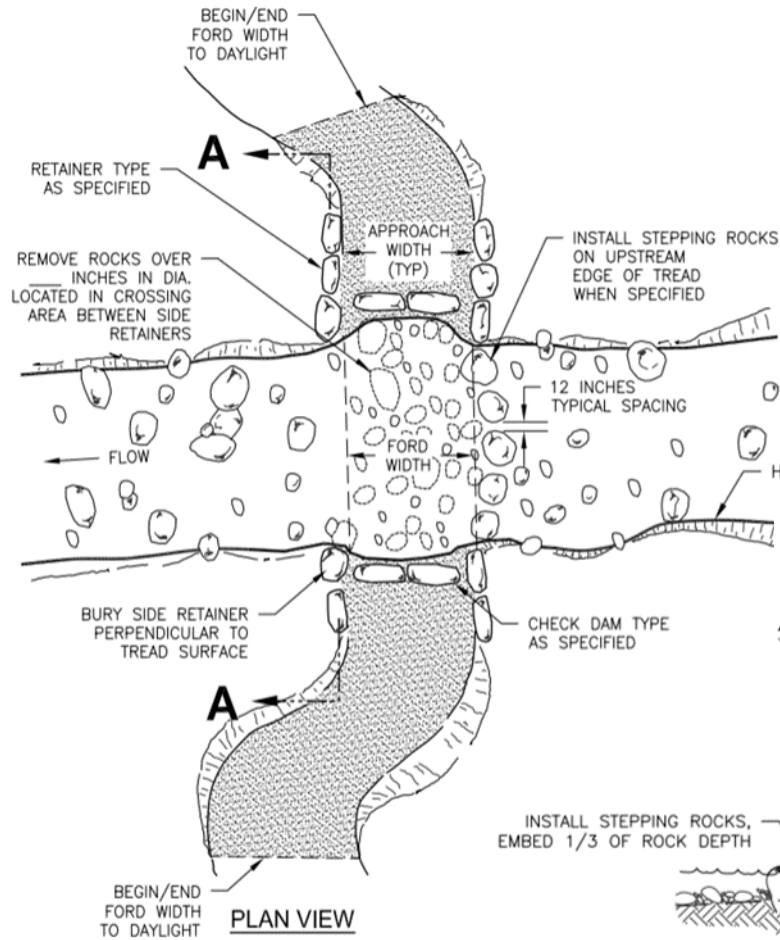
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
STANDARD TRAIL PLAN

PROJECT NAME & **DENNY CREEK TRAIL #1014**
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

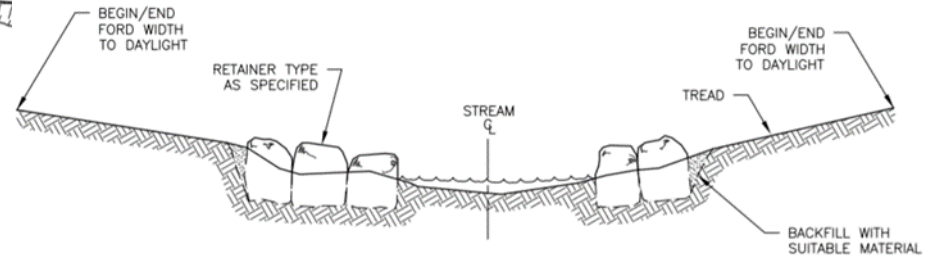
DRAWING NAME
CLEARING LIMITS - BRUSHING
SECTION
912 - CLEARING LIMITS
TYPICAL ID
CLB

REVISION DATE
XX/XX/XX
NO SCALE

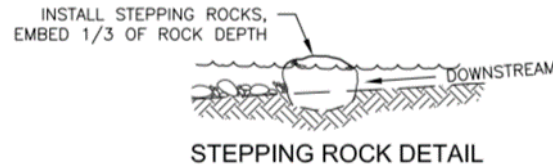
DRAWING NO.
STD_912-02
SHEET
8 of 19



NATURAL FORD STRUCTURE						
% PROFILE	SKEW	FORD WIDTH	APPROACHES		ROCK SIZE	
			WIDTH	GRADE	CHECK DAM	1-2 MAN
0 - 15%	30 deg	2X CHANNEL			STEPPING	1-2 MAN
15% - 20%	45 deg	WIDTH	4 FT	10%	RETAINER	1-2 MAN



SECTION A-A



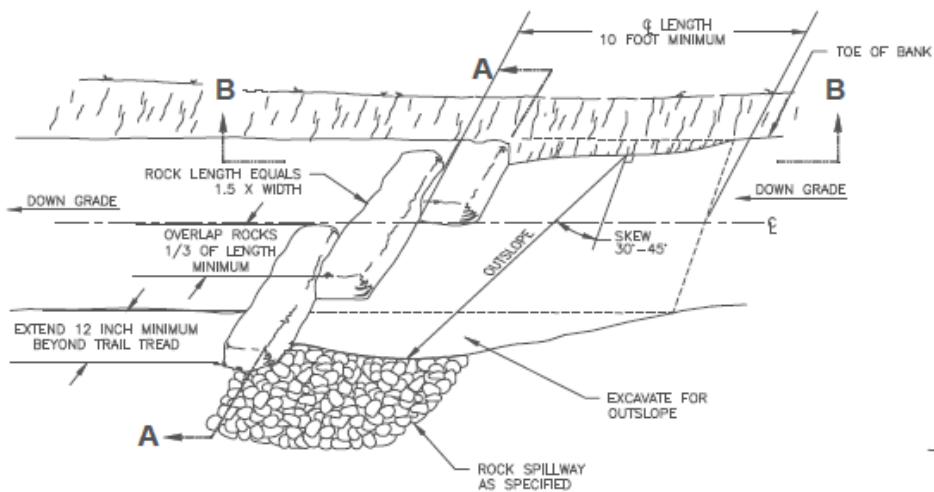
ROCK WATERBAR

SKEW

TRAIL GRADE	SKEW ANGLE
<5%	45° MAX
>5%	30° MIN

TYPICAL ID	MINIMUM ROCK SIZE (LBS)	OUTSLOPE	℄ LENGTH	ROCK*** SPILLWAY	COMMENTS
	100LBS	8%MAX	10'MIN.	N/A	X

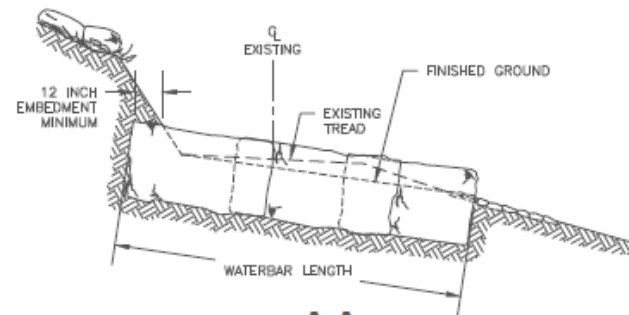
N/A WHEN NOT APPLICABLE
 ***FOR ROCK SPILLWAY SEE SHEET STD_923-10-01



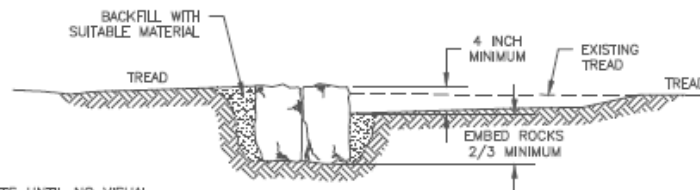
PERSPECTIVE VIEW

NOTE:

1. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
2. ALL EXCAVATED SECTIONS FOR WATERBARS SHALL BE OUTSLOPED TO DAYLIGHT.



SECTION A-A



SECTION B-B



Adapted from:

U.S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
STANDARD TRAIL PLAN

PROJECT NAME & LOCATION
DENNY CREEK TRAIL #1014
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

DRAWING NAME
ROCK WATERBAR

SECTION
 922 - WATERBARS

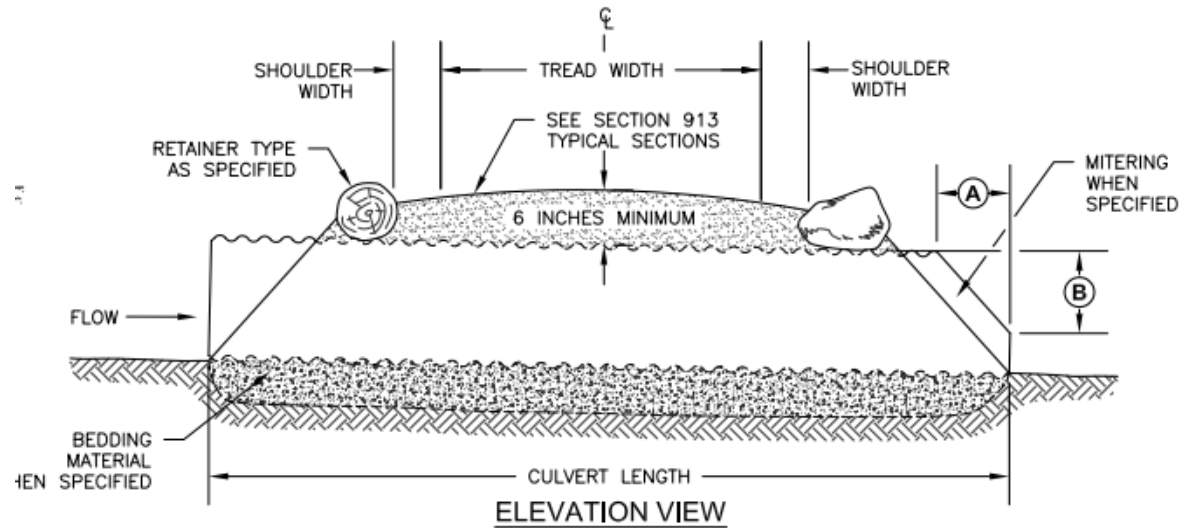
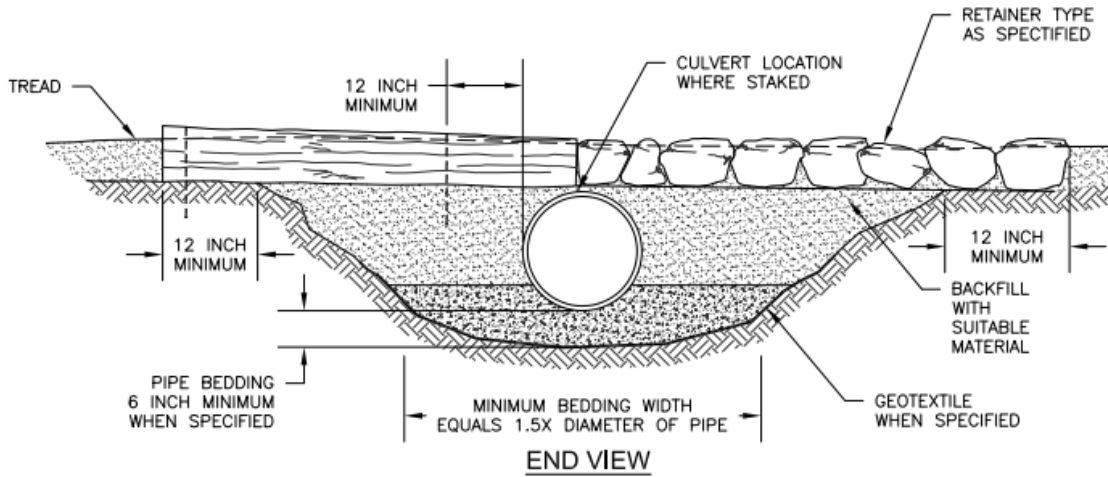
TYPICAL ID
 RWB

REVISION DATE
01/25/2021

NO SCALE

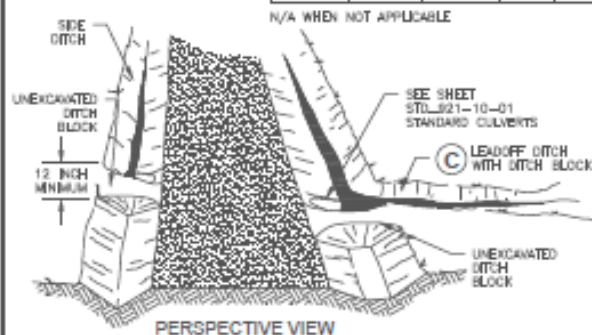
DRAWING NO.
STD_922-10-01

SHEET
10 of 19



TYPICAL DITCH SECTIONS

TYPICAL ID	DITCH TYPE	GEOTEXTILE TYPE	DITCH DIMENSIONS (INCHES)					LINING MATERIAL		DITCH BLOCK		COMMENTS		
			D	E	F	G	H	J	TYPE	SPACING (FEET)	MATERIAL		DITCH BLOCK	U
	B	N/A	12"	30"-36"	12"	8"-12"	6"	N/A	N/A	**	**	X	X	**SEE CONST. LOG FOR DETAILS



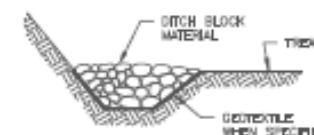
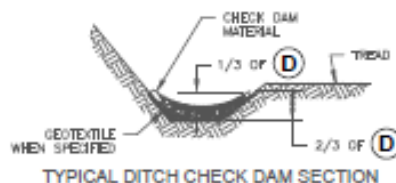
PERSPECTIVE VIEW

DITCH LINING OR CHECK DAM MATERIAL

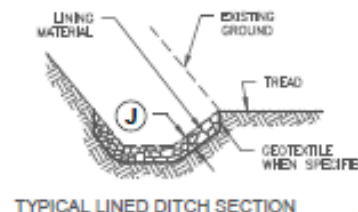
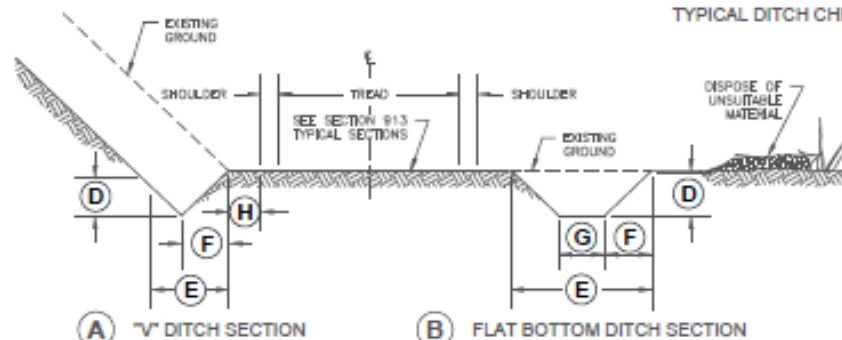
TYPE	MATERIAL	GRADATION	COMMENTS
DL1	GRAVEL	X	X
DL2	ROCK	X	
DL3	X	X	

LEAD OFF DITCH/ CHECK DAM SPACING

DRAINAGE GRADE	DRAINAGE SPACING (FEET)
<3	OCCASIONAL
3-7	60
8-12	30
>12	18



TYPICAL DITCH BLOCK SECTION



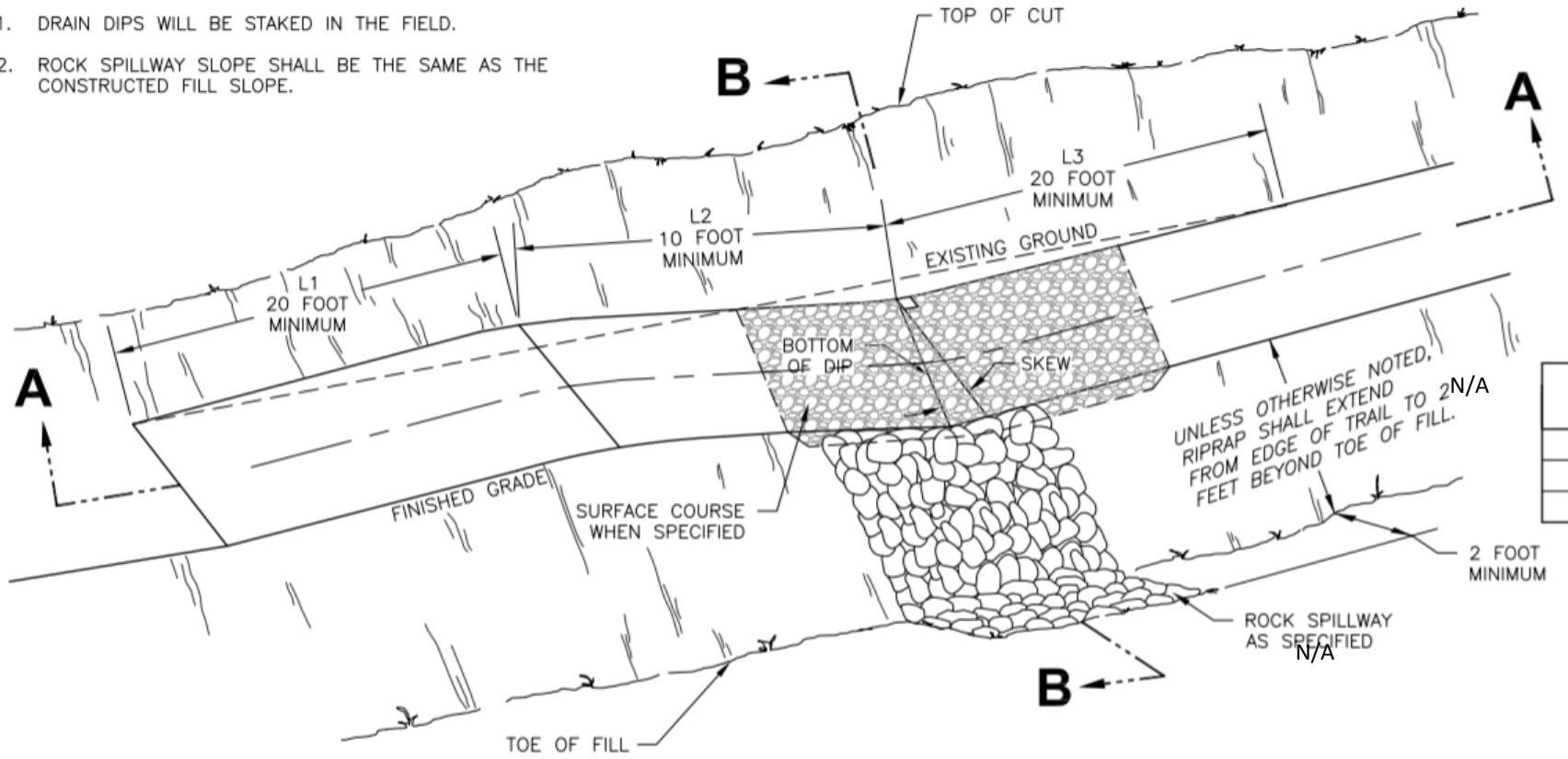
NOTES:

1. LEAD-OFF DITCHES SHALL UTILIZE AS MUCH NATURAL DRAINAGE AS POSSIBLE.
2. LEAD-OFF DITCH SHALL DRAIN TO DAYLIGHT.



NOTES:

1. DRAIN DIPS WILL BE STAKED IN THE FIELD.
2. ROCK SPILLWAY SLOPE SHALL BE THE SAME AS THE CONSTRUCTED FILL SLOPE.



DRAIN DIP DIMENSIONS							
% PROFILE GRADE	SKEW	L1	L2	L3	H	E	COMMENTS
0 - 15%	30 deg	20 ft	10 ft	20 ft	12- 18 in	36-48 in	ARMOR DIP BOTTOM W/ROCK. N/A
15% - 20%	45 deg	20 ft	10 ft	20 ft	12- 18 in	36-48 in	ARMOR SPILLWAY 4 FT MIN.



Adapted from:

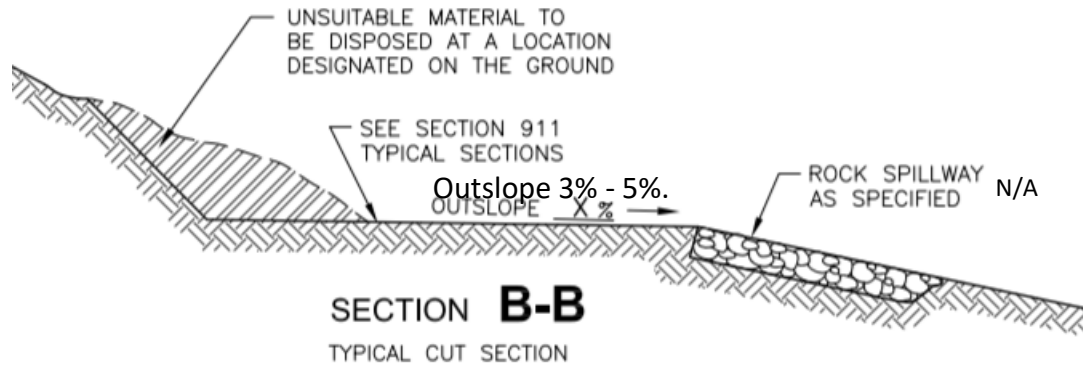
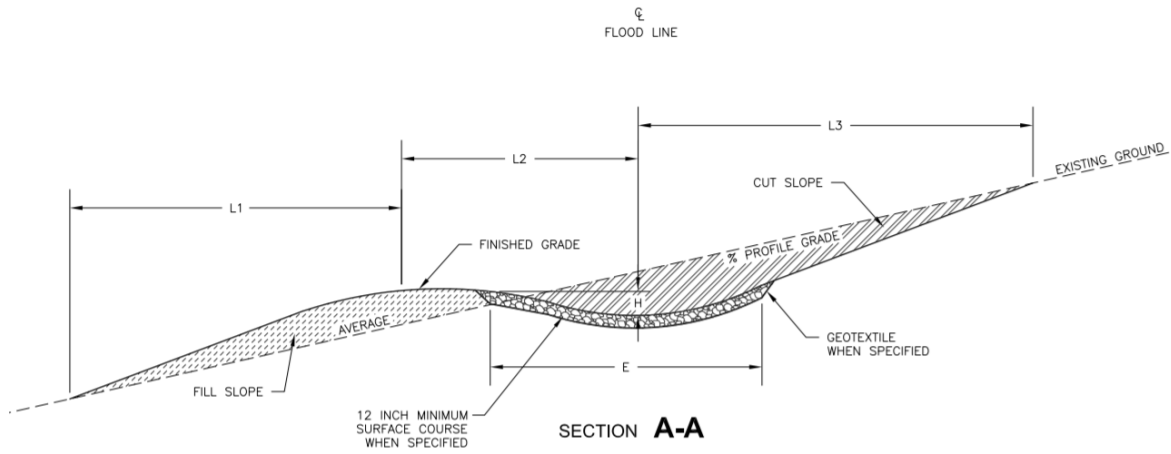
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
STANDARD TRAIL PLAN

PROJECT NAME: **DENNY CREEK TRAIL #1014**
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

DRAWING NAME: **DRAIN DIP**
SECTION: **927 - DRAIN DIPS** TYPICAL ID: **DD1**

REVISION DATE: **XX/XX/XX**
NO SCALE

DRAWING NO.: **STD_927-10-01**
SHEET: **13 of 19**



Adapted from:

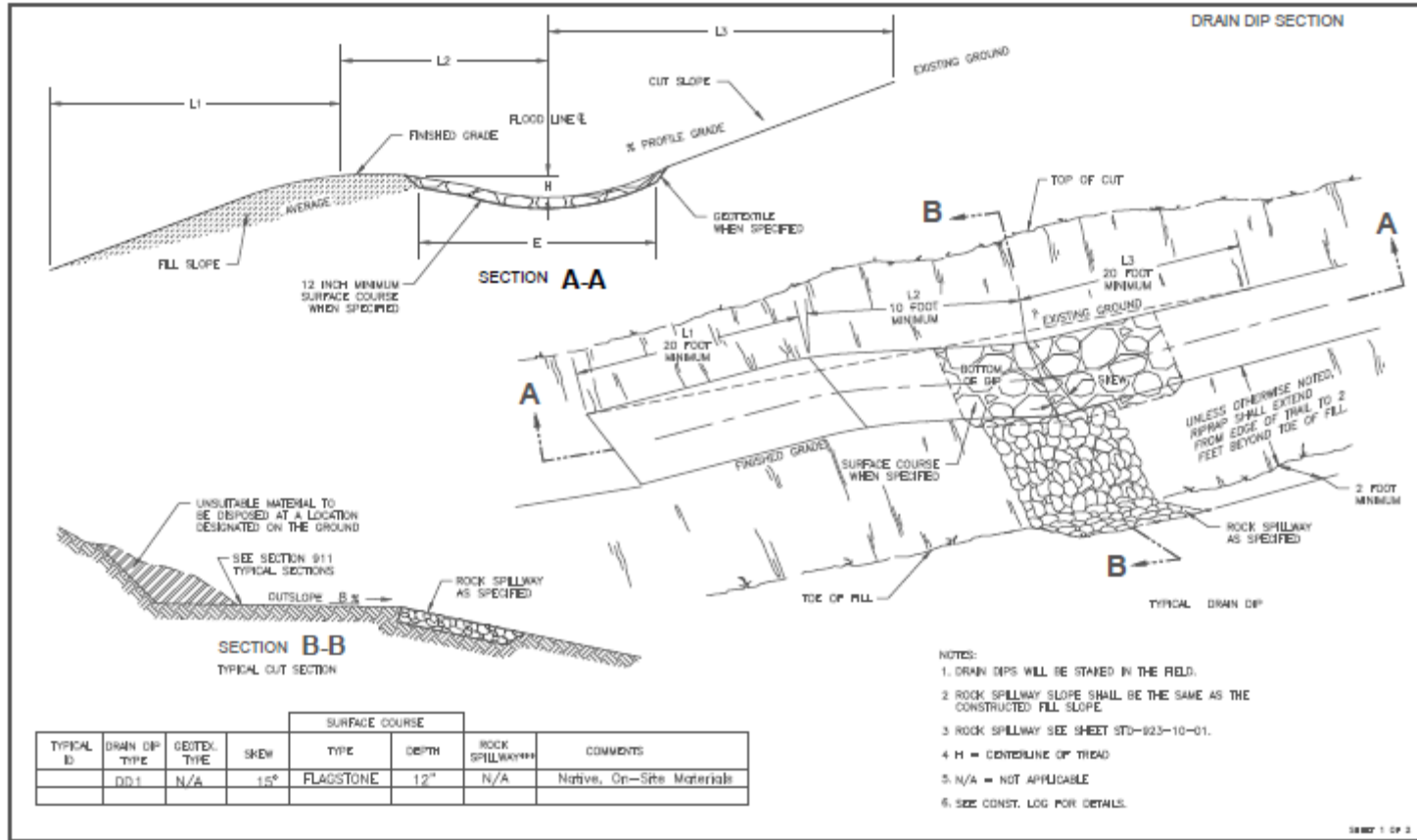
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
STANDARD TRAIL PLAN

PROJECT NAME **DENNY CREEK TRAIL #1014**
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

DRAWING NAME **DRAIN DIP**
SECTION **927 - DRAIN DIPS** TYPICAL ID **DD1**

REVISION DATE **XX/XX/XX**
NO SCALE

Sheet 2 of 2
DRAWING NO. **STD_927-10-02**
SHEET **14** of **19**

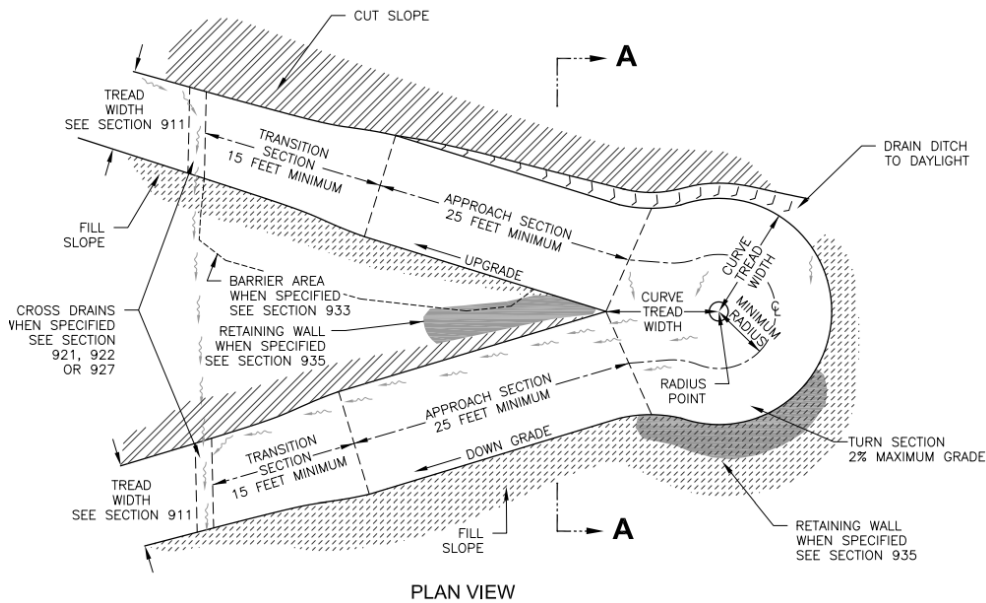


TYPICAL ID	DRAIN DIP TYPE	GEXTEL TYPE	SHEW	SURFACE COURSE		ROCK SPILLWAY***	COMMENTS
				TYPE	DEPTH		
	DD1	N/A	15°	FLAGSTONE	12"	N/A	Native, On-Site Materials

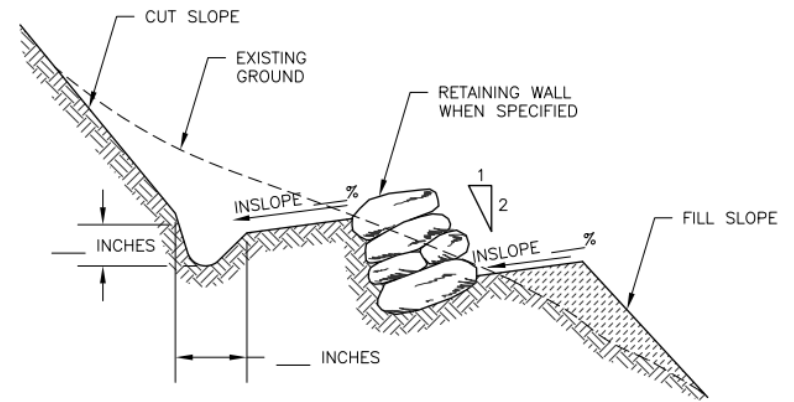
TYPE 2 CIRCULAR LANDING SWITCHBACK SECTION						
TYPICAL ID	MINIMUM RADIUS	CURVE TREAD WIDTH	BARRIER TYPE	RETAINING WALL TYPE	CROSS DRAINS	COMMENTS
n/a	18"	3 FT	ROCK	ROCK	YES	

NOTE:

RADIUS POINT AND CENTERLINE OF SWITCHBACK AS STAKED ON THE GROUND.



PLAN VIEW



SECTION A-A



Adapted from:

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
STANDARD TRAIL PLAN

PROJECT NAME & LOCATION
DENNY CREEK TRAIL #1014
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

DRAWING NAME
TYPE 2 CIRCULAR LANDING SWITCHBACK
SECTION 931 - SWITCHBACKS TYPICAL ID SW2

REVISION DATE
XX/XX/XX
NO SCALE

DRAWING NO.
STD_931-20-01
SHEET
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NOTES:

1. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
2. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.
3. LEADOFF DITCH TO BE CONSTRUCTED THE SAME AS SIDE DITCHES.
4. LEAD-OFF DITCH TO DRAIN TO DAYLIGHT.

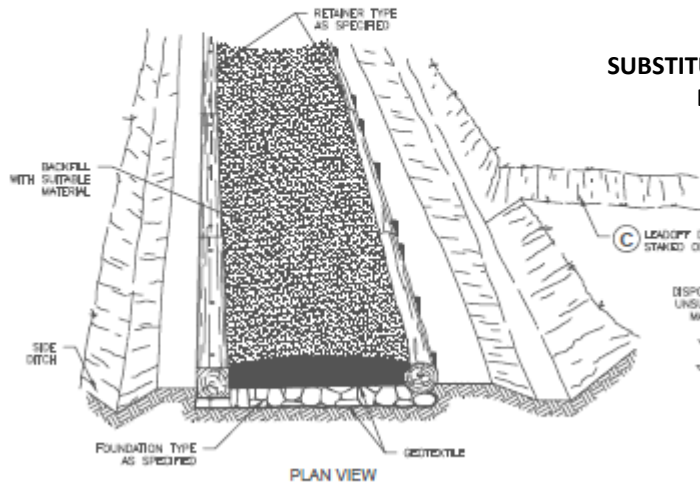
TYPE 2 - STANDARD TURNPIKE WITH FOUNDATION

TYPICAL ID	GEOTEXTILE		RETAINER*		DITCH				FOUNDATION**	COMMENTS		
	TYPE	TOP	BTM	TYPE	LOCATION		DIMENSIONS (INCHES)					
					LT	RT	D	E	F		G	TYPE
	N/A	X	X	R 2B	B	X	X	X	X	X	FD 1 & 2	SEE CONST. LOG FOR DETAILS

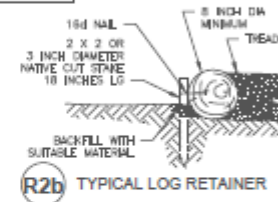
TYPE	MATERIAL	ROCK SIZE	GRADATION %	COMMENTS
FD1	AGGREGATE	5/8" MINUS		SURFACE; 4" DEPTH
FD2	COARSE ROCK	6" MINUS		NATIVE ON-SITE BORROW, 4"-6" DEPTH

IN-FILL MATERIAL TYPE

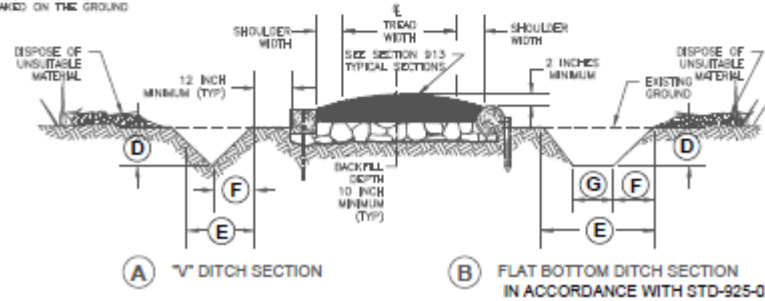
N/A WHEN NOT APPLICABLE
 *FOR TYPICAL RETAINERS SEE SHEET STD_911-03
 **FOR FOUNDATIONS SEE SECTION STD_918



**SUBSTITUTE 1-2 MAN ROCK FOR RETAINERS
 EITHER SIDE OF STRUCTURE**

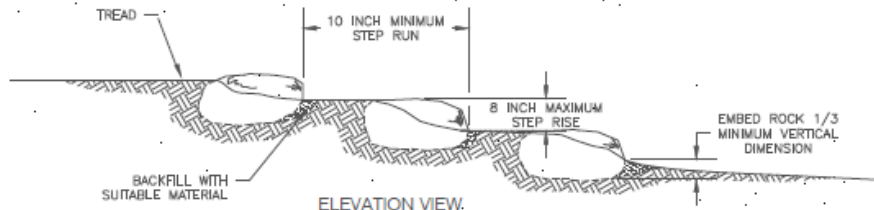
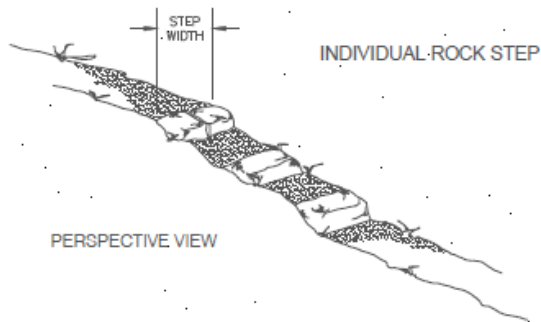


TYPICAL CROSS SECTION



INDIVIDUAL ROCK OR LOG STEP

TYPICAL ID	STEP WIDTH	STEP RUN	STEP RISE	MINIMUM ROCK WEIGHT	COMMENTS
ROCK	48"	VARIABLE	8" Max.	X	X
LOG	48"	VARIABLE	8" Max.		TREATED POLE, CCA .60 LBS/GF

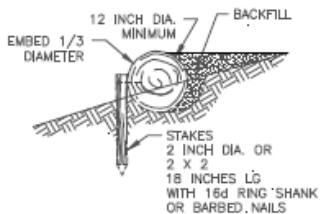
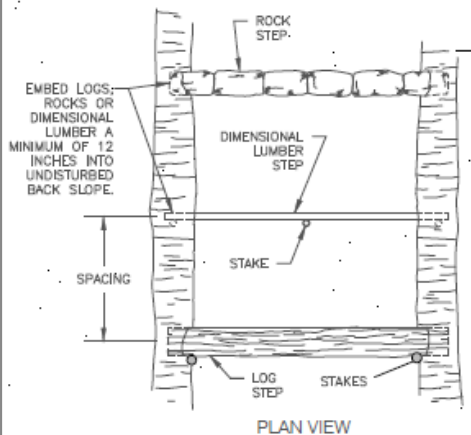


ROCK RISER STAIRWAY

NOTES:

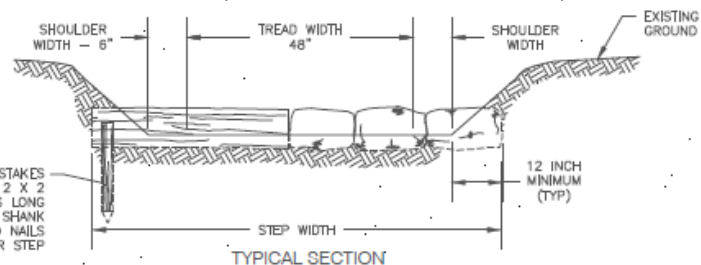
1. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
2. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.

INDIVIDUAL LOG STEP



C2a LOG

STAKES
2 INCH DIA. OR 2 X 2
18 INCHES LONG
WITH 16d RING SHANK
OR BARBED NAILS
2 PER STEP



Adapted from:

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
STANDARD TRAIL PLAN

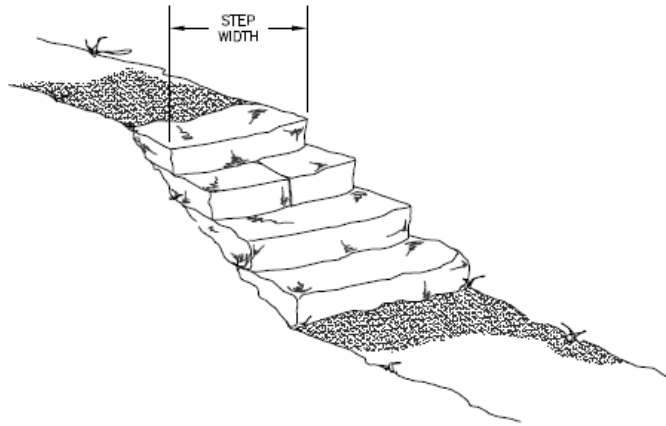
PROJECT NAME: **DENNY CREEK TRAIL #1014**
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

DRAWING NAME: **INDIVIDUAL ROCK/LOG STEP**
SECTION: **936 - STAIRWAYS** TYPICAL ID: **IRS**

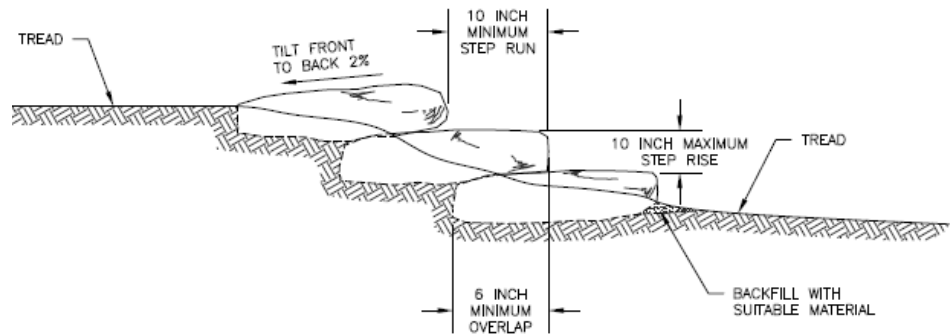
REVISION DATE: **01/13/2021**
NO SCALE

DRAWING NO. **STD_936-10-02**
SHEET **1**
18 of 19

OVERLAPPING ROCK STEP						
TYPICAL ID	STEP WIDTH	STEP RISE	STEP RUN	STEP OVERLAP	MINIMUM ROCK HEIGHT	COMMENTS
ORS-1	48"	6"-8"	10" - 24"	4"-6"	6"	ON SITE MATERIALS



PERSPECTIVE VIEW



ELEVATION VIEW

OVERLAPPING ROCK STAIRWAY

NOTES:

1. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
2. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.



Adapted from:

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
STANDARD TRAIL PLAN

PROJECT NAME **DENNY CREEK TRAIL #1014**
Mt. Baker-Snoqualmie National Forest
Snoqualmie Ranger District

DRAWING NAME
OVERLAPPING ROCK STEPS

SECTION
936 - STAIRWAYS

TYPICAL ID
ORS

REVISION DATE
XX/XX/XX

NO SCALE

DRAWING NO.
STD_936-20-01

SHEET
19 of 19

REQUEST for BID (RFB)
DENNY CREEK TRAIL #1014 RECONSTRUCTION – Wilderness Portion
APPENDIX B: PACIFIC NORTHWEST REGION FIRE PROTECTION & SUPPRESSION

**Pacific Northwest Region
Fire Protection and Suppression**

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1. Fire Period and Closed Season

Specific fire prevention measures are listed below and shall be effective for the period April 1 to October 31 of each year. The Forest Service may change the dates of the said period by advance written notice if justified by unusual weather or other conditions. Required tools and equipment shall be kept currently in serviceable condition and immediately available for initial attack on fires.

2. Fire Plan

Before starting any operations on the project, the Contractor, Permittee, Licensee, or Purchaser, hereinafter referred to as the "Contractor," shall prepare a fire plan in cooperation with the Contracting officer providing for the prevention and control of fires in the project area.

The Contractor shall certify compliance with fire protection and suppression requirements before beginning operations during the fire period and closed season, and shall update such certification when operations change.

3. Substitute Measures

The Contracting officer may by written notice, authorize substitute measures or equipment or may waive specific requirements during periods of low fire danger.

4. Emergency Measures

The Forest Service may require emergency measures, including the necessary shutting down of equipment or portions of operations in the project area during periods of fire emergency created by hazardous climatic conditions.

5. Fire Control

The Contractor shall, independently and in cooperation with the Forest Service, take all reasonable action to prevent and suppress fires in a project area. Independent initial action shall be prompt and shall include the use of all personnel and equipment available in the project area.

For the purpose of fighting forest fires on or in the vicinity of the project, which are not caused by the Contractor's operations, the Contractor shall place employees and equipment temporarily at the disposal of the Forest Service. Any individual hired by the Forest Service will be employed in accordance with the Interagency Pay Plan for Emergency Firefighters. The Forest Service will compensate the Contractor for equipment rented at fire fighting equipment rates common in the area or at prior agreed to rates.

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6. Compliance with State Forest Laws

Listing of specific fire precautionary measures herein is not intended to relieve the Contractor in any way from compliance with the State Fire Laws covering fire prevention and suppression equipment, applicable to operations under this contract, permit or license.

7. Fire Precautions

Specific fire precautionary measures are as follows:

a. Smoking and Open Fires

Smoking and fires shall be permitted only at the option of the Contractor. The Contractor shall not allow open fires on the project area without advance permission in writing from the Forest Service.

Unless restricted by State Law or Federal Regulation, smoking shall be permitted only in such portions of the project area that are free of flammable material. Smokers shall sit down to smoke in such a position that any burning material will fall within a cleared area, and shall extinguish and press out in mineral soil all burning material before leaving the cleared area.

b. Fire Extinguishers and Equipment on Trucks, Tractors, etc.

All power-driven equipment operated by the Contractor on National Forest land, except portable fire pumps, shall be equipped with one fire extinguisher having a UL rating of at least 5 BC, and one "D" handled or long handled round point shovel, size "O" or larger. In addition, each motor patrol, truck, and passenger-carrying vehicle shall be equipped with a double-bit axe or Pulaski, 3-1/2 pounds or larger.

Equipment shall be kept in a serviceable condition and shall be readily available.

c. Power Saws

Each gasoline power saw operator shall be equipped with a pressurized chemical fire extinguisher of not less than 8-ounce capacity by weight, and one long-handled round point shovel, size "o" or larger. The extinguisher shall be kept in possession of the saw operator at all times. The shovel shall be accessible to the operator within one (1) minute.

d. Extinguishers

One refill for each type or one extra extinguisher sufficient to replace each size extinguisher required on equipment shall be safely stored in the fire tool box or other agreed upon place on the project area that is protected and readily available.

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e. Spark Arresters and Mufflers

Each internal combustion engine shall be equipped with a spark arrester meeting either (1) USDA Forest Service Standard 5100-1a, or (2) appropriate Society of Automotive Engineers (SAE) recommended practice J335 (b) and J350 (a) as now or hereafter amended unless it is:

- (1) Equipped with a turbine-driven exhaust supercharger such as the turbocharger. There shall be no exhaust bypass.
- (2) A passenger-carrying vehicle or light truck, or medium truck up to 40,000 GVW, used on roads and equipped with a factory-designed muffler complete with baffles and an exhaust system in good working condition.
- (3) A heavy truck, such as a dump or log truck, or other vehicle used for commercial hauling, used only on roads and equipped with a factory designed muffler and with a vertical stack exhaust system extending above the cab.

Exhaust equipment described in this subsection, including spark arresters and mufflers, shall be properly installed and constantly maintained in serviceable condition.

f. Emergency Fire Precautions

The Contractor shall restrict operations in accordance with the Industrial Fire Precaution Levels listed below. The Forest Service may change the Industrial Fire Precaution Levels to other values upon revision of the National Fire Danger Rating System and may change the specific Industrial Fire Precaution Levels when such changes are necessary for the protection of the National Forest. When sent to the Contractor, the revised Industrial Fire Precaution Levels will supersede the attached levels.

Industrial Fire Precautions Schedule

Level Industrial Fire Precaution (IFPL)

- I. Closed season- Fire Precaution requirements are in effect. A fire watch/security is required at this and all higher levels unless otherwise waived.
- II. Partial hoot-owl- The following may operate only between the hours of 8 p.m. and 1 p.m., local time:
 - a. power saws, except at loading sites;
 - b. cable yarding;
 - c. blasting;
 - d. welding or cutting of metal.
- III. Partial shutdown- The following shall be prohibited except as indicated:

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Cable Yarding – except that gravity operated logging systems employing non-motorized carriages may be operated between the hours of 8 p.m. and 1 p.m., local time, when all block and moving lines, except the line between the carriage and the chokers, are suspended 10 feet above the ground.

Power Saws – except power saws may be used at loading sites and on the tractor/skidder operations between the hours of 8 p.m. and 1 p.m., local time.

In addition, the following are permitted between the hours of 8 p.m. and 1 p.m., local time:

- a. tractor/skidder operations;
- b. mechanized loading and hauling of any product or material;
- c. blasting;
- d. welding or cutting of metal;
- e. any other spark-emitting operation not specifically mentioned.

IV. General shutdown – All operations are prohibited.

The following definitions shall apply to those Industrial Fire Precaution Levels:

Cable yarding systems: A yarding system employing cables and winches in a fixed position.

Closed Season (Fire Precautionary Period): That season of the year when a fire hazard exists as declared by the responsible agency official.

Contracting officer: The person executing the contract, permit or license on behalf of the Government and includes that person's designated representative, acting within the limits of their authority or the duly appointed successor to the individuals.

Loading sites/woods site/project area: A place where any product or material (including but not limited to logs, firewood, slash, soil, rock, poles, posts, etc.) is placed in or upon a truck or other vehicle.

Low hazard area: Means any area where the responsible agency representative (WDNR, ORF, BIA, BLM) determines the combination of elements reduces the probability of fire starting and/or spreading.

Tractor/skidder operations: Include a harvesting operation, or portion of a harvesting operation, where tractors, skidders, or other harvesting equipment capable of constructing fireline, are actively yarding forest products and can quickly reach and effectively attack a fire start.

Waivers, written in advance, may be used for any and all activities. Activities for which waivers may be issued include, but are not limited to:

- a. mechanized loading and hauling;
- b. road maintenance such as sprinkling, graveling, grading, and paving;

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- c. cable yarding using gravity systems or suspended lines and blocks, or other yarding systems where extra prevention measures will significantly reduce the risk of fire;
- d. power saws at loading sites or in felling and bucking where extra prevention measures will significantly reduce the risk of fire;
- e. maintenance of equipment (other than metal cutting and welding) or improvements such as structures, fences, and powerlines.

Such waiver, or substitute precautions will prescribe measures to be taken by the Contractor to reduce the risk of ignition, and/or the spread of fire. The Contracting officer shall consider site-specific weather factors, fuel conditions, and specific operations that result in less risk of fire ignition and/or spread than contemplated when precaution level was predicted. Consideration shall also be given to measures that reduce the precaution levels above. The Contractor shall assure that all conditions of such waivers or substitute precautions are met.

The Contractor shall obtain the predicted Industrial Fire Precaution Level daily, prior to the start of work, from the appropriate Ranger District headquarters. If predictions made after 6:00 p.m., local time, are significantly different than the original prediction, the Forest Service will inform the Contractor when changes in restrictions or industrial precautions are made.

NOTE: The IFPL system does not apply on lands protected by ODF east of the summit of the Cascades.

Where hauling involves transit through more than one shutdown/regulated use area, the precaution level at the woods loading site shall govern the level of haul restriction, unless otherwise prohibited by other than industrial precaution level system.

8. Fire Tools

The contractor shall furnish serviceable fire fighting tools in a readily accessible fire tool box or compartment of sound construction with a hinged lid and hasp so arranged that the box can be secured or sealed. The box shall be red and marked "Fire Tools" in letters one inch high. It shall contain a minimum of:

- a. 2 axes or Pulaski's with a 32-inch handles;
- b. 3 adze eye hoes, one Pulaski may be substituted for one adze eye hoe;
- c. 3 long-handled, round point shovels, size "o" or larger.

9. Fire Security

When the Industrial Fire Precaution Level is "I" or higher, unless a waiver is granted, the Contractor shall designate a person who shall perform fire security services listed below on the project area and vicinity. The designated person shall be capable of operating the Contractor's communications and fire fighting equipment specified in the contract, excluding helicopters and of directing the activities of the Contractor's personnel on forest fires. In lieu of having the designated person perform the required supervisory duties, the

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Contractor may provide another person meeting the qualifications stated above to direct the activities of Contractor's personnel and equipment during all firefighting activities.

Services described shall be for at least one hour from the time the Contractor's operations are shut down. For the purposes of this provision, personnel servicing equipment, and their vehicles, who are not engaged in cutting or welding metal, are excluded.

Fire security services shall consist of moving throughout the operation area or areas constantly looking, reporting, and taking suppression action on any fires detected. Where possible, the designated person shall observe inaccessible portions of helicopter operating areas from vantage points within or adjacent to project area.

10. Blasting

Whenever the Industrial Fire Precaution Level is "I" or greater, a fire security person equipped with a long handled, round point, No. "O" or larger, shovel, and a five-gallon backpack pump can filled with water will stay at location of blast for 1 hour after blasting is done. Blasting may be suspended by Forest Service in writing, in an area of high rate of spread and resistance to control.

Fuses shall not be used for blasting. Explosive cords shall not be used without written permission of Forest Service, which may specify conditions under which such explosives may be used and precautions to be taken.

11. Additional Fire Precautionary Measure 1- Tank Truck

Contractor shall provide a tank truck or trailer, containing not less than 300 gallons of water, during yarding, loading, land clearing, right-of-way clearing and mechanical treatment of slash. A tank truck or trailer will not be required if power saw falling and bucking is the only operation. Such tank truck or trailer shall be maintained in a serviceable condition and located within 10 minutes, round trip, from each project area during fire period and closed season.

The tank truck or trailer shall be equipped with a pump capable of discharging 20 gallons of water per minute, using a ¼ inch nozzle tip, through a 50 foot length of rubber lined hose. In addition, 500 feet of serviceable fabric jacket rubber lined hose of not less than 1 inch outside diameter, fitted with a nozzle capable of discharging a straight stream of ¼ inch diameter and a spray pattern shall be immediately available for use. The tank, pump and at least 250 feet of hose and nozzle shall be connected and ready for use at all times.

If a trailer is used, it shall be equipped with a hitch to facilitate prompt movement. A serviceable tow vehicle shall be immediately available for attachment to the trailer and must meet the time requirements stated above. Such truck or trailer shall be equipped to operate for a minimum of 8 hours. Tank truck or trailer shall be available from the start of work to the end of the Fire Watch/Fire Security service.

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12. Additional Fire Precautionary Measure 2 - Communications

The Contractor shall provide adequate to-way communication facilities to report a fire to Forest Service within 15 minutes of detection. FCC Regulations prohibit commercial use of Citizen Band (CB) radios. (CB's are not considered adequate two-way communications). Such communications shall be operable during periods of operation of power-driven equipment; including the time fire security is required.

USDA Forest Service – Region 6

Fire Plan

(For use with forms R6-FS-6300-50, R6-FS-6300-51, and R6-FS-6300-52)

Contractor _____ Contract Number _____

Project Name _____ Contract Performance Period _____

Contractor's Representative for Fire Matters

<u>Name</u>	<u>Title</u>	<u>Telephone Number</u>	
		<u>Office</u>	<u>Residence</u>
_____	_____	_____	_____

Contracting Officer's Representative

<u>Name</u>	<u>Title</u>	<u>Telephone Number</u>	
		<u>Office</u>	<u>Residence</u>
_____	_____	_____	_____

Forest Service Inspector(s)

<u>Name</u>	<u>Title</u>	<u>Telephone Number</u>	
		<u>Office</u>	<u>Residence</u>
_____	_____	_____	_____

Action by Contractor

The contractor shall take all reasonable and practical action to prevent and suppress fires in the project area. The Contractor shall take suppression action immediately upon discovery of or becoming aware of such fire.

Action by Forest Service

The forest service may counsel with the Contractor on suppression action and will, when necessary, supplement the Contractor's efforts by furnishing personnel and equipment not available to the Contractor. In the event that a fire is not suppressed by the Contractor and will require appreciable reinforcements, the Forest Service

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may take over suppression of the fire and may employ the Contractor's Personnel and equipment.

Fire Prevention and Suppression

Predicted fire precautions class may be obtained from the following local sources:

The Contractor has employed or designated the following named individual(s) as fireguard, whose duty is the detection and suppression of fires:

<u>Name</u>	<u>Title</u>	<u>Telephone Number</u>	
		<u>Office</u>	<u>Residence</u>
_____	_____	_____	_____
_____	_____	_____	_____

Contractor will [], will not [], permit employees to smoke while in the project area. Open fires will [], will not [], be permitted by the contractor. Although these activities may be permitted by the Contractor, it is understood that neither shall be allowed without being authorized in writing by the Contracting Officer's Representative.

Fires shall be reported to one of the following Forest Service employees:

<u>Name</u>	<u>Title</u>	<u>Telephone Number</u>	
		<u>Office</u>	<u>Residence</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Contractor's Employees Possessing Special Fires Qualifications

<u>Name</u>	<u>Best Fire Assignment</u>	<u>Other</u>
<u>Qualifications</u>		

Total number of employees who could perform firefighting duties _____

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Contractor's Equipment Available for Firefighting

Description, Type Make, Model, Size	Number Units	Location
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Joint Preparation of this fire plan is acknowledged:

Contractor or Designated Representative

Contracting Officer's Representative

Date: _____

Date: _____