State of Alaska
Department of Natural Resources
Division of Forestry
Southeast Office

Draft Forest Land Use Plan
For
Vallenar Bay Timber Sale Access

SSE-1345 K

March 5, 2016

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I. Introduction

Project File Number: SSE- 1345 K

Division of Forestry Office: Southeast
Project Manager: Greg Staunton
Forest Practices Geographic Region (AS 41.17.950): Region I

This Forest Land Use Plan (FLUP) covers the access for proposed forest operations on approximately 2,500 acres of land in Vallenar Planning Unit of the Southeast State Forest and the associated access easement on Ketchikan Gateway Borough Land. It is intended to provide the best available information regarding the proposed access road construction, and management of other non-timber uses in compliance with AS 38.05.112 and AS 41.17.060, and must be adopted by the DNR before the proposed activity can occur. **The information relating to the timber harvest units will be notified in a separate FLUP.** This FLUP does not determine whether or not to access and sell timber within the timber sale area, nor the method of sale. **Those decisions have been made previously in the May 4, 2015 Best Interest Finding and are not appealable under this FLUP.** The Final Best Interest Finding and Decision for the Vallenar Bay Timber Sale may be found at: https://aws.state.ak.us/OnlinePublicNotices/Notices/View.aspx?id=176784. The BIF was administratively appealed to the Commissioner of Natural Resources on May 27, 2015. The decision was reviewed by the Commissioner and affirmed on February 26, 2016 with exclusive remand to the Division of Forestry to finalize the Southeast State Forest Inventory and adopt the Southeast State Forest Management Plan and subsequently update this information in a revised BIF prior to awarding timber for sale. The decision specifically affirmed it was appropriate to proceed with the road construction prior to the remanded actions.

[X] This Draft Forest Land Use Plan is for timber sale(s) which have been determined to be in the best interest of the state pursuant to AS 38.05.035 (e) and 38.05.945; The information in this document specifically pertains to the forest road access associated with the proposed timber sale as described in the Vallenar Bay Timber Sale Best Interest Finding signed on May 4, 2015. The site specific information relating to the timber harvest units will be notified in a separate FLUP.

[ ] This Draft Forest Land Use Plan is for timber sale(s) for which a Preliminary Best Interest Finding is currently out for review. A final best interest finding must be completed prior to adoptions of a final FLUP pursuant to AS 38.05.035 (e) and 38.05.945

[ ] This Forest Land Use Plan is for timber to be harvested that does not require a final finding pursuant to 38.05.035 (e) and notification under 38.05.945.

A draft of this plan was distributed to the Department of Fish & Game (ADF&G) and the Department of Environmental Conservation (DEC) for their review and comments relevant to the consistency of this proposed project with the statutes governing forest land use plans (AS 38.05.112) and the requirements of the Alaska Forest Resources & Practices Act (AS 41.17) and its Regulations (11 AAC 95).

The public and agencies are invited to comment on specific requirements for harvest, access, and reforestation operations in this draft FLUP. The decision on whether or not to offer timber for sale was made through the best interest finding process, and is not subject to review under the FLUP. Objections or comments pertaining to the draft FLUP must be received in writing by the DOF Southeast Area Office by **5:00 PM on April 4, 2016** in order to ensure consideration for review. Comments should be mailed to the State of Alaska, Division of Forestry, 2417 Tongass Avenue, Suite 213 or by email to dnr.vallenar.bay@alaska.gov . For more information you may contact Greg Staunton, 907-225-3070 or at dnr.vallenar.bay@alaska.gov . To be eligible to appeal the final FLUP, a person must have provided written comment by **5:00 PM on April 4, 2016.**

After public and agency review of the draft FLUP, the DOF will review comments, make changes as appropriate, and issue a final FLUP. A person affected by the final decision who provided timely written comment on the preliminary decision may appeal it, in accordance with 11 AAC 02.

[X] Other Documents are referenced in this FLUP. This timber sale is designed to be consistent with the management intent of the following documents:

The proposed area on State land is within the Southeast State Forest Management Plan (SSFMP) and is specifically referred to as the Vallenar Unit. The Central/Southern Southeast Area Plan (2000) provided interim management guidance for the Southeast State Forest prior to adoption of this forest management plan. The primary purpose for the legislatively designated Southeast State Forest is timber management (AS 41.17.200); provisions of area plans do not apply within legislatively designated areas such as state forests upon adoption of a forest management plan. This FLUP complies with both documents.

The administrative record for this sale is maintained at the Division of Forestry Southeast Office filed as Sale SSE-1345K.

A. Legal Description: The project area is on the north end of Gravina Island. Vallenar Bay is approximately five miles west of the Ketchikan International Airport and is viewable on USGS quadrangle Ketchikan B-6. The road corridor crosses State and Ketchikan Gateway Borough land in Sections 5, 6 and 8 of T75S, R90E; Sections 35 and 36 of T74S, R89 E; Sections 1, 2, 11, 12, 13, 14, 23 and 24 of T75S, R89E all within Copper River Meridian (CRM). The total amount of new construction is approximately 8.4 miles with 1.1 miles of reconstruction. (See map in Appendix A)

B. Operational Period:

Estimated Starting: First Quarter 2016
Estimated Completion of road construction summer of 2017.

C. Timber Disposal:

[X] Timber will be sold and will have a contract administrated by the State
[ ] Timber will be available to the public; permits obtained by the public will be issued by the State.
[ ] Other

D. Objectives and Summary:

The management objectives for the project are:

1. To follow the Alaska Department of Natural Resources' (DNR) constitutional mandate (Article 8.1) to encourage the development of the State's renewable resources, making them available for maximum use consistent with the public interest;
2. To help the State's economy by providing royalties to the State in the form of Stumpage receipts, and an infusion to the State's economy through wages, purchases, jobs, and business;
3. To help the local economy of the communities within southern Southeast Alaska by creating additional jobs in Southeast Alaska due to the combination of road building, logging, trucking and potentially milling.

II. Affected Land Owners/Jurisdictions

A. State Ownership:

Activity on ownership:	Access Easement	Harvest	Written Representative Approval
[X] Southeast State Forest	[ ]	[ ]	[X]
[ ] Other state land managed by DNR	[ ]	[ ]	[ ]
[ ] University of Alaska	[ ]	[ ]	[ ]
[ ] Mental Health Trust	[ ]	[ ]	[ ]
[ ] School Trust	[ ]	[ ]	[ ]

B. Other Land Ownership:

Land Owner: Ketchikan Gateway Borough	[X]	[ ]	[X]

Land Owner Representative: Borough Manager

III. Harvest Methods, Silvicultural Actions, and Management of Non-timber Resources

Forest operations will be designed to:

- Protect fish habitat and water quality in compliance with the best management practices in 11 AAC 95.260-.370,
- Manage for the other land uses and activities identified in AS 41.17.060 and the Best Interest Finding for this timber sale, and
- Ensure prompt reforestation and maintenance of site productivity in compliance with AS 41.17.060(c) and 11 AAC 95 .375-.390.

Harvest and Silvicultural Methods:

[ ] The silvicultural actions are described in this document, and no prescription was written or is necessary

[ ] A silvicultural prescription has been written and is attached to this document in Appendix B

[X] The general silvicultural prescription has been described in the BIF. Harvest unit specifics will be described in one or more subsequent FLUPs prior to harvest.

A. Timber Stand Description and History:

The project area old growth timber is composed predominately of hemlock with occasional spruce and western red and Alaska yellow cedar. It is decadent and relatively tall timber (two to three logs per tree) on the east side of Vallenar Bay and relatively short (one to two logs) and of poor form on the west side of the bay. The timber has a dense canopy in the taller stands with occasional wind throw openings. The shorter stands exhibit poor soil (wet) that influence and produce openings and scrubby timber.

The "young growth in the project area is relatively dense and maturing timber with little defect. The area was previously logged in the early 1950's. Previously harvested areas that are not dominated by Sitka spruce intermixed with western hemlock generally are growing red alder of significant size that may be commercially marketable. The bole lengths of the spruce and hemlock trees are generally tall enough to recover one to two merchantable logs. The alder patches appear to be associated with areas that were heavily scarified of organic soil during the previous harvest. Sub-merchantable spruce and hemlock is evident in these areas and is showing signs that it is displacing the alder.

B. Timber Harvest Activities:

Timber Harvest Activities will be displayed in Table 1 in subsequent FLUPs prior to harvest.

Table 1. Timber Harvest Activities

Unit ID	Acres	Topography	Silvicultural Action	Logging Method
Unassigned			Unassigned	To be determined.

C. Site Preparation:

[ ] Site preparation will not be necessary. There is either sufficient residual stocking, or because there has been sufficient soil disturbance by logging to forego scarification.

[X] Site preparation will be discussed in subsequent FLUPs prior to harvest.

[ ] Site preparation will be implemented and described in Table 2:

Table 2. Site Preparation

Unit	Acres	Site Preparation Method	Date of Completion
Unassigned		Timber Harvest Disturbance	As unit completed

D. Reforestation:

[X] Reforestation will be discussed in subsequent FLUPs prior to harvest of specific units. No obstacles have been observed to reforestation in the project area.

[ ] Clearcut

[ ] Partial Harvest:

[ ] Region I: leaving more than 50% live basal area (11 AAC 95(b)(3))

[ ] Region II/III: Relying on residual trees to result in a stocking level that meets standards of 11 AAC 95.375 (b 4). Stocking levels will be calculated subject to the methods below:

Table 3. Stocking Level Requirements

Average DBH (Diameter at breast height)	Residual Trees (Trees / acre)	Minimum Stocking Standard(Trees/ acre)	Percent Stocking
> 9”		120	%
6” to 8”		170	%
1” to 5”		200	%
Total Residual Stocking			%

Seedlings Required:

Percentage Under stocked = 100 – Total Residual Stocking %
Percentage Under stocked = 100 –_____% =_____%

Seedlings/ Acre Required = Percentage Understocked/100 x 450
Seedlings/ Acre Required =_____% /100 x 450 = _____

[ ] Natural regeneration

List species:

[ ] Coppice

List species:

[ ] Artificial regeneration

[ ] Seeding-source of seed (general vicinity location of seed source)
_____

[ ] Planting: Date of proposed planting: _____

Source of seedlings (location of seed source): __

E. Slash Abatement:

[ ] Potential for insect infestations caused by slash accumulations exists. Slash abatement for controlling infestations will be implemented as required by 11AAC 95.370.
[ ] Lop and scatter slash; accumulations will be kept to less than 2 feet in height.
[ ] Slash will be disposed of by the operator [ ] Slash will be disposed of by the State
[ ] Other - method of slash disposal: [ ] removal off site [ ] crushing or grinding [ ] burning
[ ] Burn permits necessary from DOF and DEC to be acquired.
[ ] The operator will contact the Division of Forestry local area office prior to ignition of debris.
[X] Not required by the Division of Forestry in this area.

F. Surface Water Protection:

[ ] There are no streams or lakes abutting or within a harvest unit.
[X] Surface water protection for harvest units will be described in subsequent FLUPs prior to harvest.

Table 4. Protection for Known Classified Surface Waters

ROAD	Water Name	AS 41.17.950 Classification	ADF&G AWC #	Required Riparian Protection	Site-specific actions to minimize impacts on riparian area
3000	Tributary Vallenar Creek	I-A	Un-Catalogued	Slope Stability Standards, 100 FT. timber retention.	Follow ADFG Habitat Permit for all work.
3000	Tributary Vallenar Creek	I-A	101-29-10060-2001	Slope Stability Standards, 100 FT. timber retention.	Follow ADFG Habitat Permit for all work.
3000	Vallenar Creek	I-A	101-29-10060	Slope Stability Standards, 100 FT. timber retention.	Follow ADFG Habitat Permit for all work.

Surface waters were reviewed by the Department of Fish and Game:
[X] During the timber sale planning process
[X] During the agency review conducted for the Best Interest Finding for this sale
[X] During the drafting of this Forest Land Use Plan
[X] Stream Crossings (Title 16) Permits are needed per ADF&G Division of Habitat

Surface waters listed were reviewed by the Department of Environmental Conservation:
[X] During the timber sale planning process
[X] During the agency review conducted for the Best Interest Finding for this sale
[X] During the drafting of this Forest Land Use Plan

Non-classified surface waters are subject to applicable BMPs in 11 AAC 95.

G. Wildlife Habitat:

[X] Wildlife species and allowances for their important habitats were addressed in writing by the Department of Fish & Game during the Best Interest Finding review. Subsequent timber harvest FLUPs will further address wildlife habitat needs when units are designed.

[ ] Wildlife species and allowances for their important habitats were addressed in writing by the Department of Fish & Game during the drafting of this Forest Land Use Plan.

Silvicultural practices to be applied to minimize impacts to wildlife habitat or wildlife management:
[X] Timber retention - concentrations of timber surrounding harvest units, or interspersed within harvest units to provide cover.
[ ] Snag Retention- snags or isolated trees left for cavity nesting species.
[ ] Large Woody Debris – concentrations of downed timber or logging debris interspersed within harvest units to provide cover left on site.
[ ] Other actions

H. Cultural and Historical Resource Protection:

[X] This project was reviewed by the State Historic and Preservation Office (SHPO).
[X] No artifacts have been reported within the project area(s).
[ ] Known or likely sites have been identified and a mitigation plan is in place. (Describe the mitigation actions.)

I. Other Resources Affected by Timber Harvest and Management:

[X] There are other resources and areas of concern besides surface water, fish habitat, and wildlife habitat that may be affected. Mitigations actions were addressed in the Best Interest Finding.

Table 5. Other Affected Resources/ Areas of Concern.

Impacted Resource	Reviewing Agency	Impact/ Mitigation Actions
Road Visual	DOF	The road itself will have a minimal affect on visual resources.
Timber Unit Visual	DOF and KGB	To be determined in future FLUPs for harvest unit design.

[ ] There are no affected resources or areas of concern other than surface water, fish habitat, and wildlife habitat, which are addressed in this Forest Land Use Plan.

IV. Roads and Crossing Structures

The roads described in this FLUP will be constructed under a public works contract administered by the Division of Forestry upon adoption of this FLUP.

A. Road Design, Construction, and Maintenance:

Roads are designed and will be constructed and maintained to prevent significant adverse impacts on water quality, fish habitat (AS 41.17.060(b) (5)) and site productivity (AS 41.17.060(c)(5)). Roads will comply with the best management practices in the Forest Resources and Practices Regulations (11 AAC 95.285 – 95.335).

Roads or other means required for the access and removal of this timber from the harvest area or units are listed in Table 6.

Table 6. Road Construction and Use

Road ID	Harvest Unit	Road Miles	Road Type	Maximum Grade	Constructed by	Maintained by
Vallenar Bay Road	NA	6.0	Secondary	12%	DOF	DOF/ Users
FDR 8110 Trunk	NA	0.2	Secondary	12%	DOF	DOF/Users
FDR 8110 Spur	Unassigned	1.1	Secondary	12%	DOF	DOF/Users
3000	NA	2.0	Secondary	12%	DOF	DOF/Users
3030	NA	0.25	Secondary	12%	DOF	DOF/Users

**Note: Roads must be less than 20% grade per 8 AAC 61.1060 Additional Logging Standards*

B. Side Slopes / Mass Wasting:

Per 11 AAC95.220(9) slopes over 50% have been identified along the proposed road alignment where indicators of unstable areas are present (landslide scars, jack-strawed trees, gullied or dissected slopes, high density of streams or zero-order basins, or evidence of soil creep). The locations of these conditions and the specific road design mitigation for areas of unstable soils are as follows:

Start	End	Indicator	Mitigation
V-168	V-178	Boulder field at angle of repose.	Road located at toe of slope, engineered buttress reinforcement.
V-204	NA	Debris slide	Same as above.
V-199	V-230	Soil creep evidence at toe of slope.	Road located on natural rock bench, minimize cuts, minimize side casting.
V-274	V-278	Blue clay.	Minimize cuts, avoid over excavation, and revegetate cuts.

Maximum percent side slopes: 60% (Short pitches of bedrock may exceed this figure.)
[ ] There are no slopes >50%
[ ] There are no indicators of unstable areas where roads will be constructed
[X] Indicators of unstable areas were identified and will be mitigated by actions indicated below.
[X] Full benching will be constructed to help ensure slope stability
[ ] Full benching is not required for roads in this project
[X] End hauling will be implemented to help ensure slope stability
[ ] End hauling is not necessary for roads in this project.

General Erosion Control:
[X] grass seeding [ ] erosion control mats [X] wattle [X] Other
[ ] not applicable
See Erosion Control Plan in Appendix C.

C. Crossing Structures:

Removing or replacing drainage structures [X] YES [ ] NO
(At end of use on the 8110 Spur, 3000 Road and 3030 Spur.)
[ ] No crossing structures are needed within the project area.
[X] Crossing structures will be placed along access roads as described in Table 7:
[X] Stream Crossings (Habitat) Permits have been obtained from ADF&G Division of Habitat

Road Structure Notes:

1. Relief culverts will be placed as required by 11 AAC 95.295 (b).
2. The Alaska Forest Practices Act and Regulations Required Practices (FRPA) in this FLUP's Appendix D describe the best management practices that will be used to control and prevent water pollution. The FRPA is a performance requirement of the road construction contractor and all actions by the DOF occurring in the project area. The road construction contractor shall be required to adapt to conditions encountered and develop site-specific erosion sediment control that maintains water quality.
3. Anadromous fish habitat has been identified by DOF and ADFG-Habitat. ADFG-Habitat has issued Fish Habitat Permits for all actions in waters containing fish.
4. The 8110 Trunk and Spur Roads require brushing and the reestablishment of ditches on the up-hill side of the road and blading. Side cast material from the reconstruction shall be stabilized from erosion through the use of timely grass seeding in conjunction with the establishment of native plants and a combination other best management practices proven to maintain water quality. If seeding is not practical other methods will be used until native vegetation is established. No side cast material susceptible to erosion shall be placed in surface waters. Drainages listed on the 8110 Trunk and Spur Road are water quality streams and are tributary to or within the watershed of anadromous habitat.

Table 7. Required Drainage and Crossing Structures on Known Surface Waters

Road	Label (Staked)	Longitude	Latitude	Culvert Size (IN.)	Bridge Type	AS 41.17.950 Classification	ADFG AWC #	Structure Lifespan	Comment
VBR	V10	131° 45.830' W	55° 22.989' N	NA	NA	Water Quality	NA	Permanent	Ditch to V11
VBR	V11	131° 45.839' W	55° 22.995' N	18	NA	Water Quality	NA	Permanent	
VBR	V15	131° 45.909' W	55° 23.029' N	18	NA	Water Quality	NA	Permanent	
VBR	V23	131° 46.096' W	55° 23.118' N	18	NA	Water Quality	NA	Permanent	
VBR	V24	131° 46.121' W	55° 23.129' N	18	NA	Water Quality	NA	Permanent	
VBR	V30	131° 46.242' W	55° 23.198' N	48	NA	Water Quality	NA	Permanent	
VBR	V34	131° 46.345' W	55° 23.262' N	18	NA	Water Quality	NA	Permanent	
VBR	V36	131° 46.384' W	55° 23.286' N	18	NA	Water Quality	NA	Permanent	
VBR	V41	131° 46.541' W	55° 23.363' N	48	NA	Water Quality	NA	Permanent	
VBR	V44	131° 46.641' W	55° 23.408' N	18	NA	Water Quality	NA	Permanent	
VBR	V52	131° 46.962' W	55° 23.459' N	24	NA	Water Quality	NA	Permanent	
VBR	V55	131° 47.100' W	55° 23.468' N	18	NA	Water Quality	NA	Permanent	
VBR	V65	131° 47.394' W	55° 23.506' N	40 FT Bridge	Modular	Tributary	101-47-10550	Permanent	
VBR	V73	131° 47.703' W	55° 23.625' N	24	NA	Water Quality	NA	Permanent	
VBR	V75	131° 47.826' W	55° 23.654' N	40 FT Bridge	Modular	Tributary	101-47-10600	Permanent	
VBR	V77	131° 47.908' W	55° 23.687' N	24	NA	Water Quality	NA	Permanent	
VBR	V79	131° 47.987' W	55° 23.740' N	24	NA	Water Quality	NA	Permanent	
VBR	V80	131° 48.006' W	55° 23.754' N	18	NA	Water Quality	NA	Permanent	
VBR	V84	131° 48.147' W	55° 23.848' N	18	NA	Water Quality	NA	Permanent	
VBR	V85	131° 48.193' W	55° 23.878' N	18	NA	Water Quality	NA	Permanent	
VBR	V87	131° 48.251' W	55° 23.916' N	48	NA	Water Quality	NA	Permanent	
VBR	V93	131° 48.394' W	55° 24.047' N	18	NA	Water Quality	NA	Permanent	
VBR	V94	131° 48.418' W	55° 24.066' N	18	NA	Water Quality	NA	Permanent	
VBR	V95	131° 48.438' W	55° 24.084' N	24	NA	Water Quality	NA	Permanent	

Road	Label	Longitude	Latitude	Culvert Size (IN.)	Bridge Type	AS 41.17.950 Classification	ADFG AWC #	Structure Lifespan	Comment
VBR	V104	131° 48.668' W	55° 24.235' N	50 FT Bridge	Modular	Tributary	101-47-10650		
VBR	V111	131° 48.870' W	55° 24.312' N	18	NA	Water Quality	NA	Permanent	
VBR	V121	131° 49.194' W	55° 24.458' N	18	NA	Water Quality	NA	Permanent	
VBR	V127	131° 49.398' W	55° 24.352' N	36	NA	Water Quality	NA	Permanent	
VBR	V132	131° 49.574' W	55° 24.256' N	18	NA	Water Quality	NA	Permanent	
VBR	V136	131° 49.684' W	55° 24.177' N	18	NA	Water Quality	NA	Permanent	
VBR	V137	131° 49.709' W	55° 24.169' N	36	NA	Water Quality	NA	Permanent	
VBR	V138	131° 49.747' W	55° 24.162' N	24	NA	Water Quality	NA	Permanent	
VBR	V140	131° 49.808' W	55° 24.167' N	18	NA	Water Quality	NA	Permanent	
VBR	V146	131° 49.993' W	55° 24.084' N	24	NA	Water Quality	NA	Permanent	
VBR	V150	131° 50.081' W	55° 24.027' N	18	NA	Water Quality	NA	Permanent	
VBR	V154	131° 50.150' W	55° 23.954' N	24	NA	Water Quality	NA	Permanent	
VBR	V156	131° 50.143' W	55° 23.934' N	48	NA	Water Quality	NA	Permanent	skewed
VBR	V159	131° 50.151' W	55° 23.882' N	24	NA	Water Quality	NA	Permanent	
VBR	V165	131° 50.257' W	55° 23.803' N	60	NA	Water Quality	NA	Permanent	skewed
VBR	V220+25	Not Recorded	Not recorded	18	NA	Water Quality	NA	Permanent	Designed relief.
VBR	V225+50	Not Recorded	Not recorded	18	NA	Water Quality	NA	Permanent	Designed relief.
VBR	V228+00	Not Recorded	Not recorded	18	NA	Water Quality	NA	Permanent	Designed relief.
VBR	V233+25	Not Recorded	Not recorded	18	NA	Water Quality	NA	Permanent	Designed relief.
VBR	V185	131° 50.461' W	55° 23.454' N	18	NA	Water Quality	NA	Permanent	
VBR	V186	131° 50.441' W	55° 23.435' N	18	NA	Water Quality	NA	Permanent	
VBR	V194	131° 50.264' W	55° 23.268' N	18	NA	Water Quality	NA	Permanent	
VBR	V195	131° 50.243' W	55° 23.246' N	18	NA	Water Quality	NA	Permanent	
VBR	V199	131° 50.153' W	55° 23.169' N	48	NA	Water Quality	NA	Permanent	
VBR	V202	131° 50.089' W	55° 23.109' N	18	NA	Water Quality	NA	Permanent	seep
VBR	V204	131° 50.054' W	55° 23.075' N	24	NA	Water Quality	NA	Permanent	25 YR. old slide
VBR	V207	131° 49.995' W	55° 23.025' N	18	NA	Water Quality	NA	Permanent	

Road	Label	Longitude	Latitude	Culvert Size (IN.)	Bridge Type	AS 41.17.950 Classification	ADFG AWC #	Structure Lifespan	Comment
VBR	V208	131° 49.982' W	55° 23.013' N	18	NA	Water Quality	NA	Permanent	
VBR	V209	131° 49.964' W	55° 23.002' N	18	NA	Water Quality	NA	Permanent	
VBR	V210	131° 49.951' W	55° 22.982' N	18	NA	Water Quality	NA	Permanent	
VBR	V217	131° 49.695' W	55° 22.783' N	18	NA	Water Quality	NA	Permanent	seep
VBR	V220	131° 49.619' W	55° 22.737' N	48	NA	Tributary	NA	Permanent	Occasional water use by cabins below.
VBR	V221	131° 49.602' W	55° 22.715' N	24	NA	Tributary	NA	Permanent	
VBR	V222	131° 49.590' W	55° 22.698' N	18	NA	Tributary	NA	Permanent	
VBR	V225	131° 49.473' W	55° 22.573' N	18	NA	Tributary	NA	Permanent	seep
VBR	V227	131° 49.457' W	55° 22.513' N	18	NA	Tributary	NA	Permanent	
8110 Trunk	V230	131° 49.448' W	55° 22.413' N	24	NA	Water Quality	NA	Permanent	drainage crossing road
8110 Trunk	V231	131° 49.409' W	55° 22.393' N	24	NA	Water Quality	NA	Permanent	origin water on road
8110 Trunk	V232	131° 49.352' W	55° 22.349' N	24	NA	Water Quality	NA	Permanent	eroded road bed
8110 Trunk	V233	131° 49.295' W	55° 22.313' N	24	NA	Water Quality	NA	Permanent	ditch drainage crossing road
8110 Trunk	V234	131° 49.276' W	55° 22.296' N	18	NA	Water Quality	NA	Permanent	water crossing road
8110 Trunk	V235	131° 49.268' W	55° 22.282' N	24	NA	Water Quality	NA	Permanent	drainage entering ditch
3000	V249	131° 49.610' W	55° 22.265' N	40 FT. Bridge	Modular	Anadromous	Un-catalogued	<15 Years	
3000	V252	131° 49.691' W	55° 22.242' N	40 FT. Bridge	Modular	Anadromous	101-29-10060-2001	<15 Years	
3000	V254	131° 49.770' W	55° 22.219' N	24	NA	Water Quality	NA	<15 Years	
3000	V262	131° 49.935' W	55° 22.113' N	24	NA	Tributary	NA	<15 Years	
3000	V268	131° 49.991' W	55° 21.984' N	80 FT Bridge	Modular	Anadromous	101-29-10060	<15 Years	
3000	V270	131° 49.985' W	55° 21.955' N	24	NA	Tributary	NA	<15 Years	

Road	Label	Longitude	Latitude	Culvert Size (IN.)	Bridge Type	AS 41.17.950 Classification	ADFG AWC #	Structure Lifespan	Comment
3000	V271	131° 49.970' W	55° 21.945' N	18	NA	I-C	NA	<15 Years	
3000	V274	131° 49.954' W	55° 21.902' N	24	NA	Tributary	NA	<15 Years	
3000	V277	131° 49.989' W	55° 21.871' N	18	NA	Water Quality	NA	<15 Years	seep
3000	V278	131° 50.015' W	55° 21.856' N	18	NA	Water Quality	NA	<15 Years	seep; headwall
3000	V281	131° 50.105' W	55° 21.851' N	36	NA	Tributary	NA	<15 Years	
3000	V286	131° 50.292' W	55° 21.851' N	24	NA	Water Quality	NA	<15 Years	
3000	V406	131° 50.476' W	55° 21.847' N	24	NA	Water Quality	NA	<15 Years	
3000	V408	131° 50.501' W	55° 21.841' N	24	NA	Water Quality	NA	<15 Years	
3000	V420	131° 50.579' W	55° 21.658' N	18	NA	Water Quality	NA	<15 Years	
3000	V425	131° 50.567' W	55° 21.596' N	18	NA	Water Quality	NA	<15 Years	
3000	V427	131° 50.517' W	55° 21.581' N	18	NA	Water Quality	NA	<15 Years	
3000	V429	131° 50.466' W	55° 21.568' N	18	NA	Water Quality	NA	<15 Years	
3000	V431b	131° 50.428' W	55° 21.552' N	18	NA	Water Quality	NA	<15 Years	
3000	V437b	131° 50.296' W	55° 21.599' N	18	NA	Water Quality	NA	<15 Years	
3000	V441	131° 50.185' W	55° 21.614' N	18	NA	Water Quality	NA	<15 Years	
3000	V443	131° 50.153' W	55° 21.602' N	24	NA	Water Quality	NA	<15 Years	
3000	V450	131° 50.047' W	55° 21.530' N	18	NA	Water Quality	NA	<15 Years	
3000	V451	131° 50.029' W	55° 21.512' N	18	NA	Water Quality	NA	<15 Years	18" culvert 33 FT. back
3000	V453	131° 50.012' W	55° 21.486' N	18	NA	Water Quality	NA	<15 Years	
3000	V454	131° 50.006' W	55° 21.465' N	18	NA	Water Quality	NA	<15 Years	
3000	V455	131° 49.994' W	55° 21.462' N	18	NA	Water Quality	NA	<15 Years	
3000	V456	131° 49.980' W	55° 21.448' N	24	NA	Water Quality	NA	<15 Years	
3030	V459	131° 50.512' W	55° 21.406' N	18	NA	Water Quality	NA	<15 Years	
3030	V460	131° 50.449' W	55° 21.408' N	18	NA	Water Quality	NA	<15 Years	
3030	V461	131° 50.431' W	55° 21.419' N	18	NA	Water Quality	NA	<15 Years	
3030	V462	131° 50.412' W	55° 21.437' N	18	NA	Water Quality	NA	<15 Years	

Road	Label	Longitude	Latitude	Culvert Size (IN.)	Bridge Type	AS 41.17.950 Classification	ADFG AWC #	Structure Lifespan	Comment
3030	V464	131° 50.368' W	55° 21.487' N	18	NA	Water Quality	NA	<15 Years	
3030	V465	131° 50.362' W	55° 21.503' N	24	NA	Water Quality	NA	<15 Years	
3030	V466	131° 50.352' W	55° 21.527' N	18	NA	Water Quality	NA	<15 Years	
3030	V467	131° 50.360' W	55° 21.535' N	18	NA	Water Quality	NA	<15 Years	
8110 Spur	V235	131° 49.269' W	55° 22.282' N	None	NA	Tributary	NA	<15 Years	30FT ahead, place 18" culvert
8110 Spur	V470	131° 49.239' W	55° 22.247' N	24	NA	Tributary	NA	<15 Years	road eroded 50% for 100FT.
8110 Spur	V471	131° 49.221' W	55° 22.195' N	24	NA	Tributary	NA	<15 Years	road 50% eroded for50 FT
8110 Spur	V472	131° 49.188' W	55° 22.147' N	24	NA	Water Quality	NA	<15 Years	seep
8110 Spur	V473	131° 49.151' W	55° 22.099' N	24	NA	Tributary	NA	<15 Years	
8110 Spur	V474	131° 49.105' W	55° 22.041' N	24	NA	Tributary	NA	<15 Years	
8110 Spur	V475	131° 49.086' W	55° 22.017' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V476	131° 49.068' W	55° 21.992' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V477	131° 49.060' W	55° 21.971' N	18	NA	Tributary	NA	<15 Years	Old slide uphill 2 chains.
8110 Spur	V478	131° 49.003' W	55° 21.923' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V479	131° 48.975' W	55° 21.897' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V480	131° 48.956' W	55° 21.880' N	18	NA	Water Quality	NA	<15 Years	seep
8110 Spur	V481	131° 48.938' W	55° 21.856' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V482	131° 48.910' W	55° 21.827' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V483	131° 48.865' W	55° 21.797' N	18	NA	Tributary	NA	<15 Years	

Road	Label	Longitude	Latitude	Culvert Size (IN.)	Bridge Type	AS 41.17.950 Classification	ADFG AWC #	Structure Lifespan	Comment
8110 Spur	V484	131° 48.843' W	55° 21.780' N	None	NA	Tributary	NA	<15 Years	V483 to V484 road 50% eroded
8110 Spur	V485	131° 48.789' W	55° 21.686' N	None	NA	Tributary	NA	<15 Years	
8110 Spur	V486	131° 48.776' W	55° 21.666' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V487	131° 48.765' W	55° 21.652' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V488	131° 48.733' W	55° 21.616' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V489	131° 48.713' W	55° 21.596' N	24	NA	Tributary	NA	<15 Years	
8110 Spur	V490	131° 48.705' W	55° 21.583' N	24	NA	Tributary	NA	<15 Years	
8110 Spur	V491	131° 48.693' W	55° 21.569' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V492	131° 48.692' W	55° 21.554' N	None	NA	Water Quality	NA	<15 Years	Start old slide area
8110 Spur	V493	131° 48.670' W	55° 21.527' N	24	NA	Tributary	NA	<15 Years	end slide/ place culvert <33ft>
8110 Spur	V494	131° 48.620' W	55° 21.501' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V495	131° 48.600' W	55° 21.488' N	18	NA	Water Quality	NA	<15 Years	combine two seeps
8110 Spur	V496	131° 48.576' W	55° 21.455' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V497	131° 48.572' W	55° 21.436' N	18	NA	Water Quality	NA	<15 Years	Seep, ditch to V496
8110 Spur	V498	131° 48.524' W	55° 21.382' N	18	NA	Tributary	NA	<15 Years	
8110 Spur	V499	131° 48.502' W	55° 21.346' N	18	NA	Tributary	NA	<15 Years	

D. Road Closure:

Roads constructed for the timber sale that are left open will be subject to maintenance standards under 11 AAC 95.315. Otherwise, roads constructed for the timber sale will be closed, subject to standards under 11 AAC 95.320. Roads closed to vehicle traffic will remain open to pedestrian traffic.

Table 8. Road Closures

Road ID	Unit	All Season/ Winter	Estimated Closure Date	Projected Road Use after Timber Harvest
Vallenar Bay Road	Unassigned	All	No Closure Date	State Forest Access
FDR 8110 Trunk	Unassigned	All	No Closure Date	State Forest Access
FDR 8110 Spur	Unassigned	All	2020	Precommercial thinning, remote recreation.
3000	Unassigned	All	2025	Precommercial thinning, remote recreation.
3030	Unassigned	All	2025	Precommercial thinning, remote recreation.

E. Material Extraction:

[ ] There will be no material extraction sites in the project area.
[X] Material extraction and associated overburden disposal will be located outside of riparian areas and muskegs.

- The first three mile s of the road traverse scrubby timber and intermittent muskeg openings; pits sites will be chosen to avoid and minimize disturbance of wetlands.

[X] Material extraction and disposal will be located based on contractor proposed locations and subject to prior approval of the DOF.

- Material extraction and disposal will be located from within or adjacent to the road right of way, in a manner that prevents runoff from entering surface waters. Pit sites are projected to be less than 1 acre and will be stabilized upon completion of road building operations.

F. Other Resources Affected by Roads or Material Extraction:

List resources other than water, habitat or cultural resources potentially impacted by road construction, and indicate how impacts will be mitigated. Other affected resources could be, but are not limited to mining claims, scenic areas, recreational trails, etc.

Table 9. Other Affected Resources

Impacted Resource	Reviewing Agency	Impact/ Mitigation Actions
Visual	DOF and Borough	Retain timber within 100 feet of private lots when safety allows.

V. Approvals

This Draft Forest Land Use Plan for the Vallenar Bay Timber Sale Access has been reviewed by the Division of Forestry and provides the information necessary for public and agency review of the project described in this document.

Michael Curran _______________ 3-2-16 _______________

Area Forester **Date**

If you have any questions, please contact Greg Staunton Project Manager at (907) 225-3070 or e-mail mailto:dnr.vallenar.bay@alaska.gov.

Appendix A: Timber Sale Maps

Exhibit A	Vicinity Map
Exhibit B	Timber Sale Access Road Maps (5 pages)

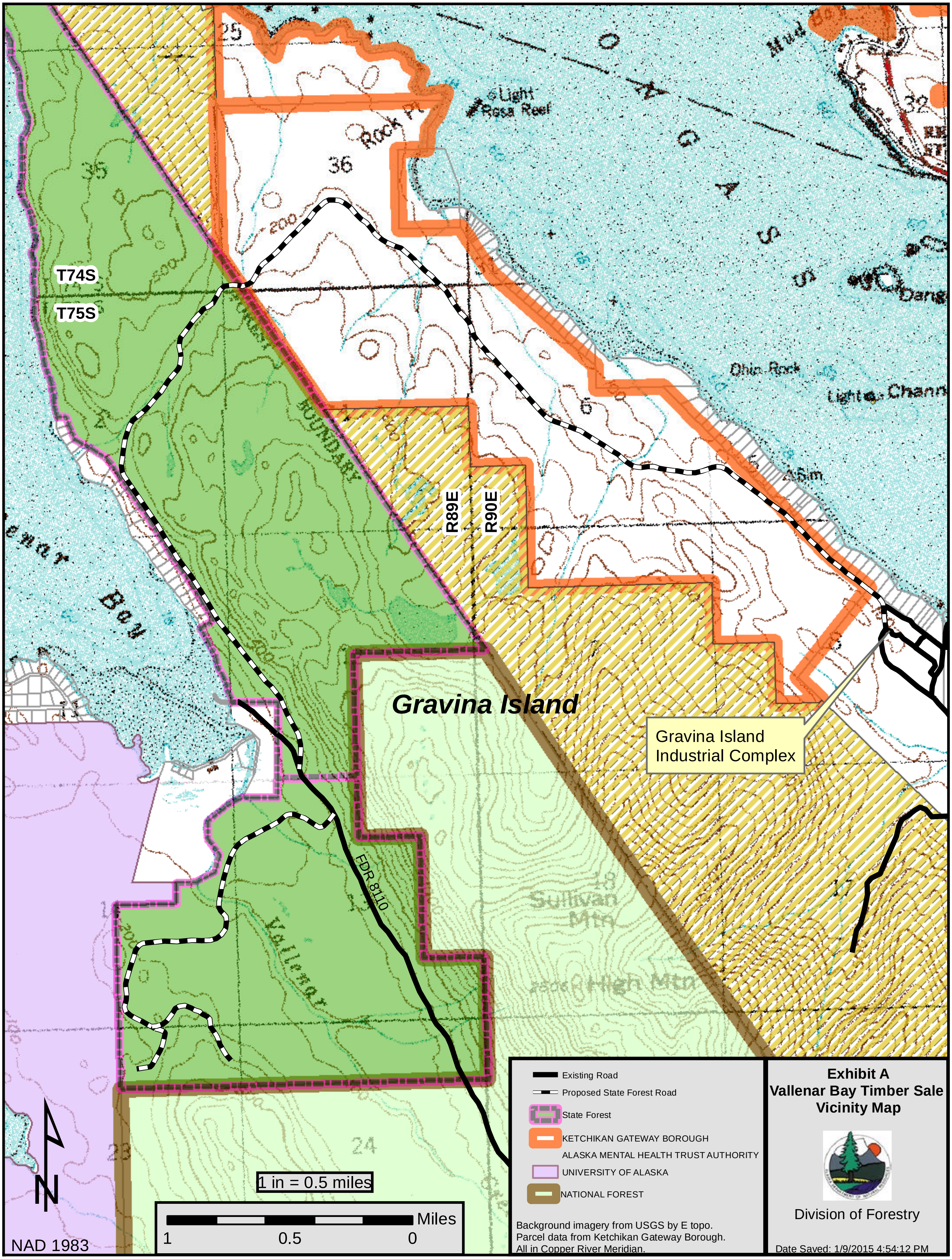
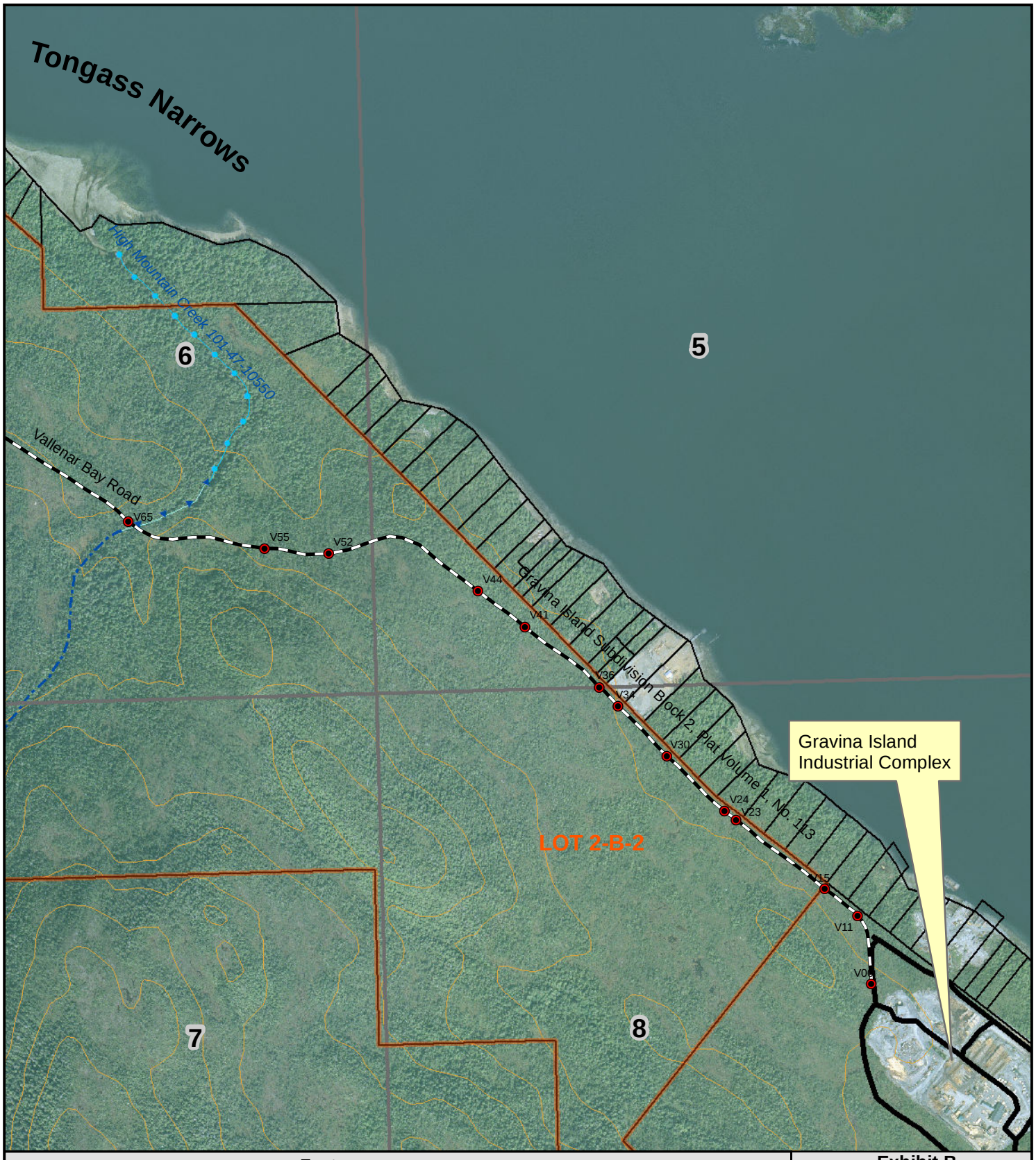


Exhibit A
Vallenar Bay Timber Sale
Vicinity Map
Gravina Island
Gravina Island Industrial Complex
T74S
T75S
R89E
R90E
FDR 8110
Light
Rosa Reef
Rock Pt
Ohio Rock
Sullivan Mtn
High Mtn
Existing Road
Proposed State Forest Road
State Forest
KETCHIKAN GATEWAY BOROUGH
ALASKA MENTAL HEALTH TRUST AUTHORITY
UNIVERSITY OF ALASKA
NATIONAL FOREST
Background imagery from USGS by E topo.
Parcel data from Ketchikan Gateway Borough.
All in Copper River Meridian.
Division of Forestry
Date Saved: 1/9/2015 4:54:12 PM
1 in = 0.5 miles
Miles
1
0.5
0
N
NAD 1983



Feet
1,000 500 0
1 in equals 1,000 feet

NAD 1983

Contour Interval 100 Feet

Background Data Source:
USFS GIS Library May, 2010

Parcel Boundary Source:
2014 Ketchikan Gateway Borough

- Proposed State Forest Road
- Existing Road
- Operable Timber Base
- KETCHIKAN GATEWAY BOROUGH
- UNIVERSITY OF ALASKA
- NATIONAL FOREST
- STATE FOREST
- Cataloged Anadromous
- Uncataloged Anadromous
- Resident Fish
- Water Quality
- Eagle Trees

This map set depicts the proposed Vallenar Bay Project located on Gravina Island in Township 74 and 75 South, Range 89 and 90 East, Copper River Meridian.

Exhibit B
Vallenar Bay Timber Sale
Access Road Map
Page 1 of 5

Division of Forestry

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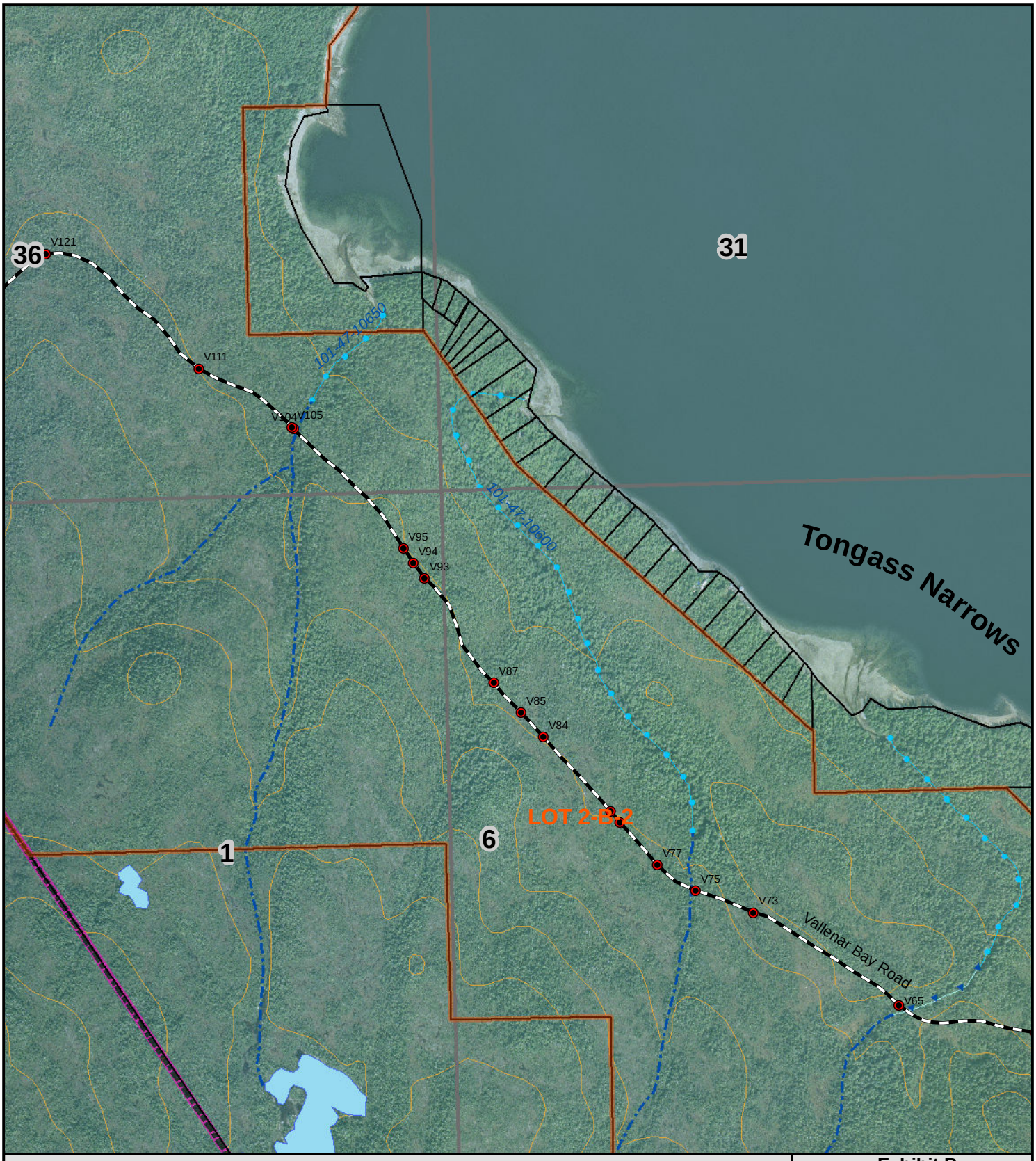

Feet
1,000 500 0
1 in equals 1,000 feet

Contour Interval 100 Feet

Background Data Source:
USFS GIS Library May, 2010

Parcel Boundary Source:
2014 Ketchikan Gateway Borough

NAD 1983

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Page 2 of 5

Division of Forestry

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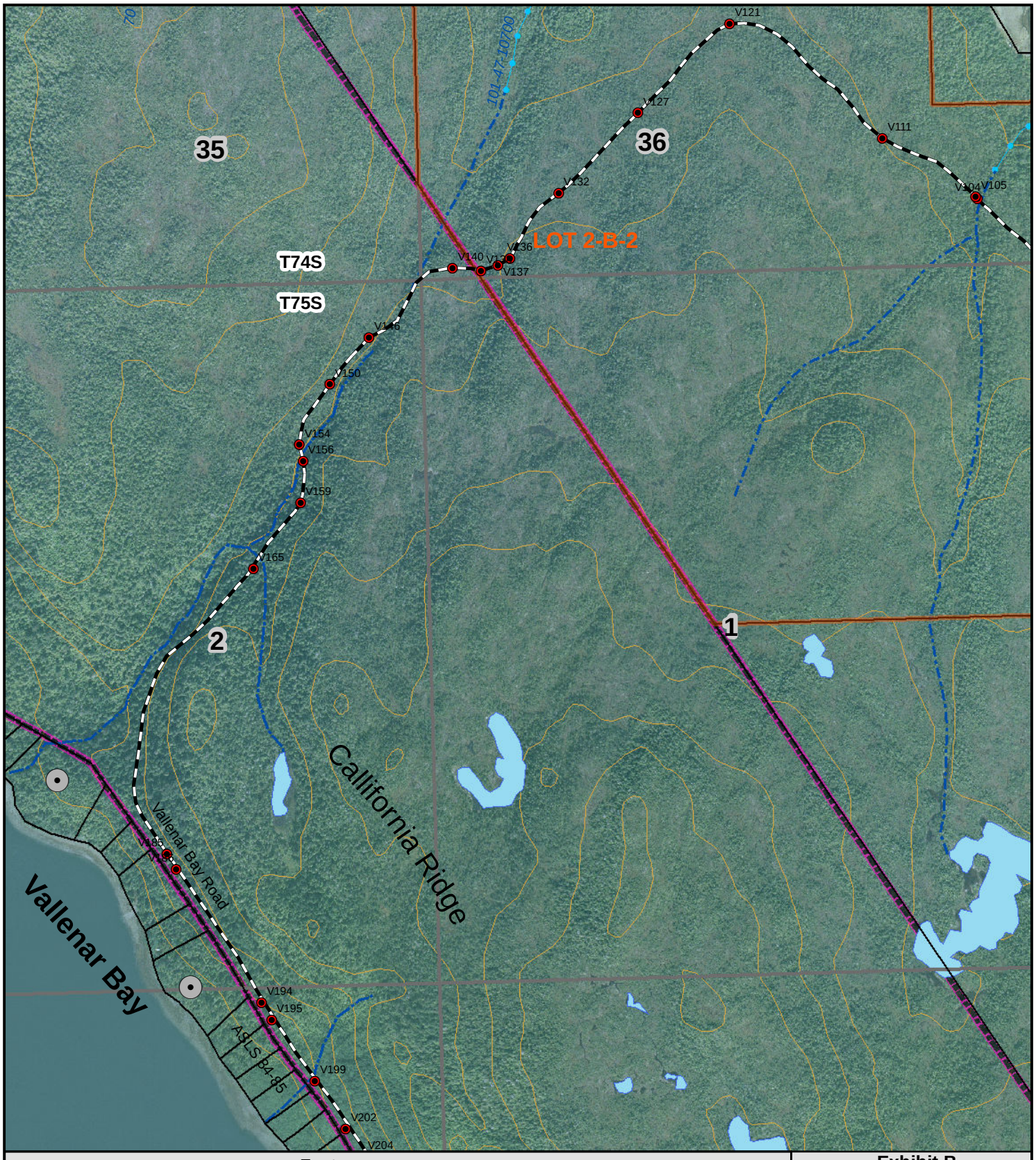

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Parcel Boundary Source:
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Access Road Map
Page 3 of 5

Division of Forestry
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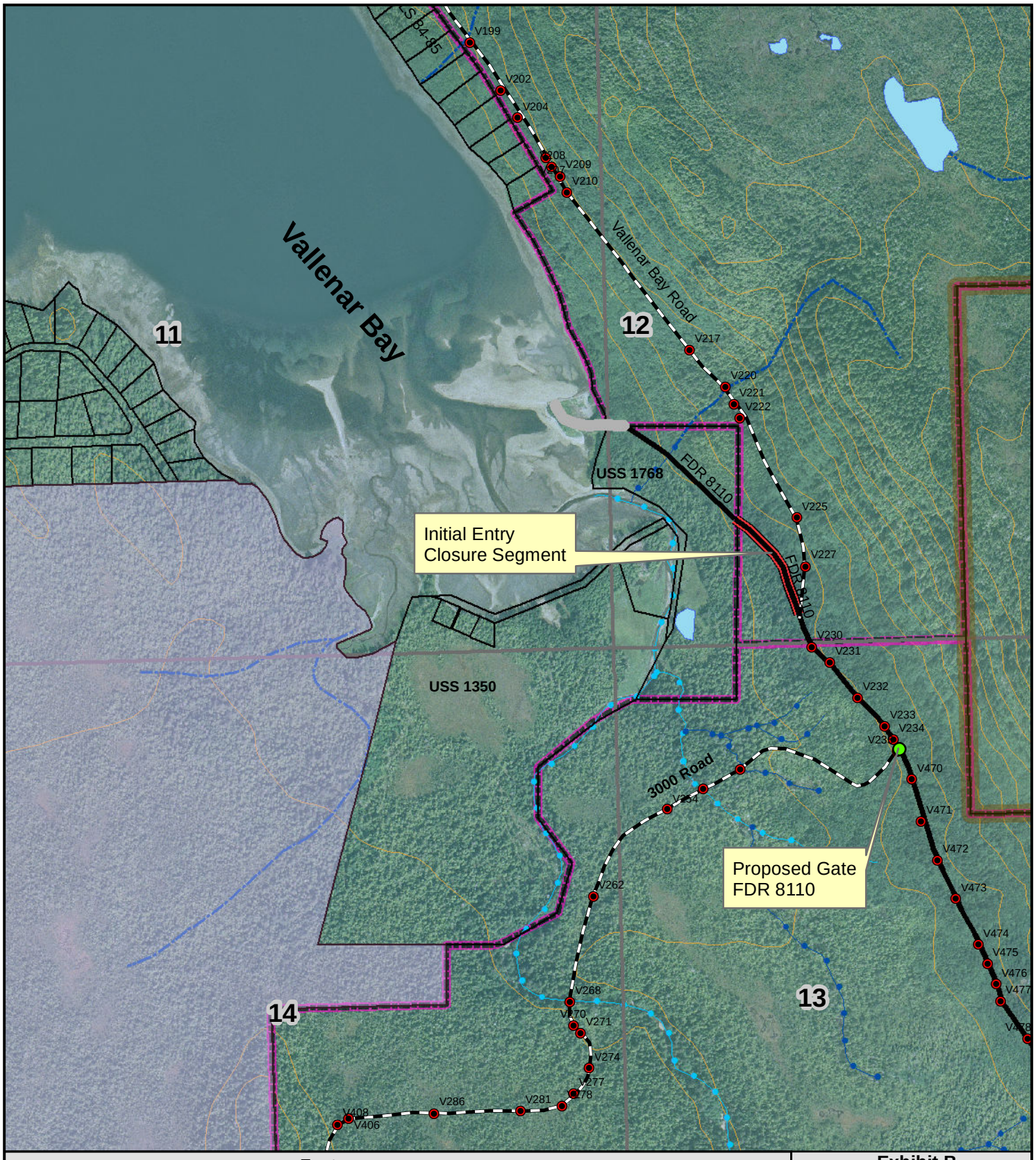

Feet
1,000 500 0
1 in equals 1,000 feet

Contour Interval 100 Feet

Background Data Source:
USFS GIS Library May, 2010

Parcel Boundary Source:
2014 Ketchikan Gateway Borough

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Exhibit B
Vallenar Bay Timber Sale
Access Road Map
Page 4 of 5

Division of Forestry

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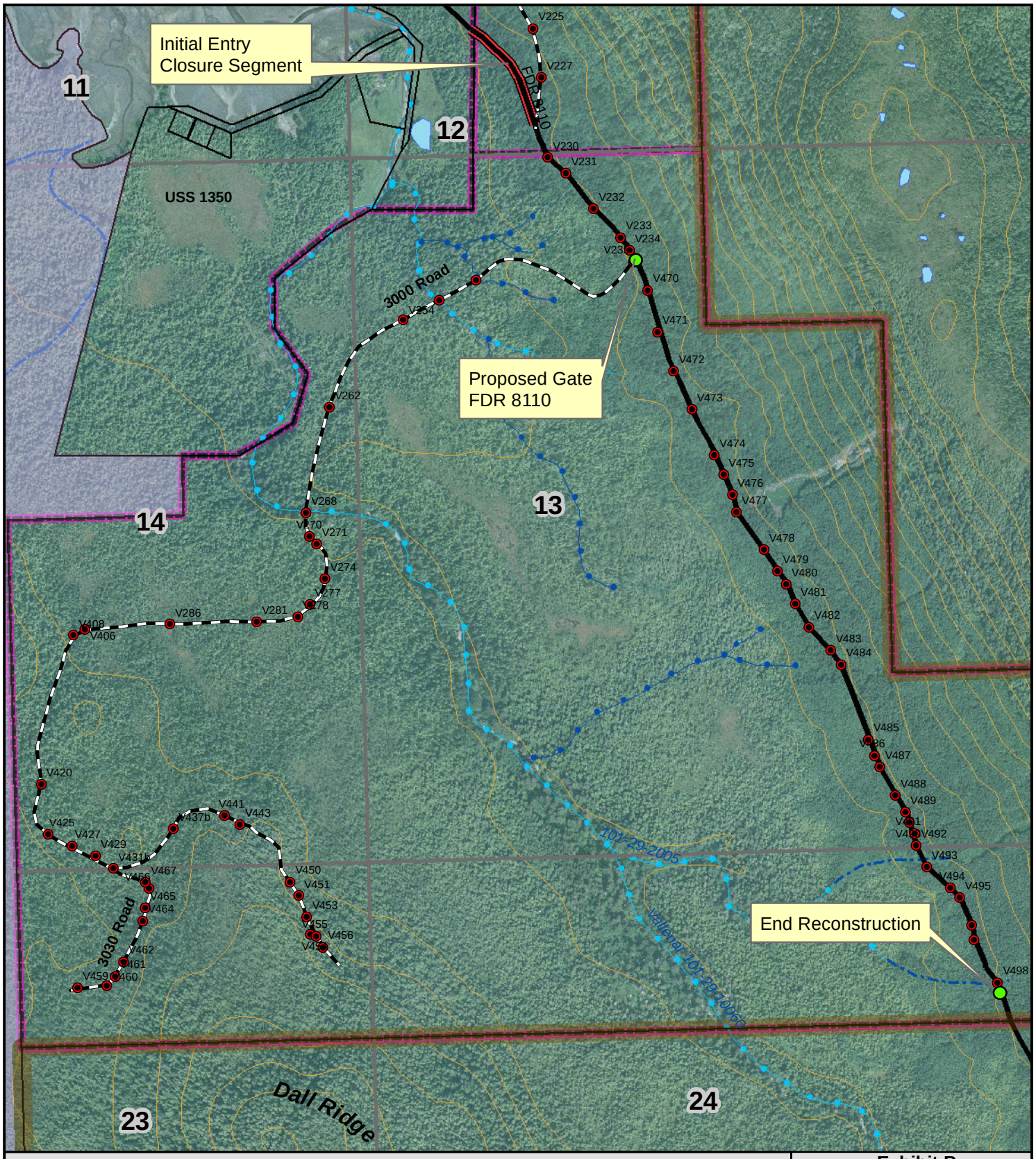

Feet
1,000 500 0
1 in equals 1,000 feet

Contour Interval 100 Feet

Background Data Source:
USFS GIS Library May, 2010

Parcel Boundary Source:
2014 Ketchikan Gateway Borough

NAD 1983

- Proposed State Forest Road
- Existing Road
- Operable Timber Base
- KETCHIKAN GATEWAY BOROUGH
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Exhibit B
Vallenar Bay Timber Sale
Access Road Map
Page 5 of 5

Division of Forestry

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Appendix B: Silvicultural/ Timber Stand Information (Reserved)

Note: Silvicultural and stand information shall be described in subsequent FLUPs pertaining to the harvest units.

Appendix C- Reserved

Appendix D–Supporting Documentation

Alaska Forest Practices Act and Regulations Required Practices

Note: This is an excerpt from the Alaska Forest Practices Act and Regulations (FRPA). This project shall follow the all current requirements of the FRPA. The current FRPA may be found at http://forestry.alaska.gov/statutes.htm. These requirements are the minimum required by State law. For clarity of intent, sections of FRPA have been omitted that are regionally or by the nature of the work being performed as not applicable.

All roads shall be built to the FRPA standard best management practices unless site specific erosion and sediment control design has been approved by the project engineer as the representative of the Division of Forestry. The FRPA Standard Best Management Practices, the State Standard Highway Contract, the Special Provisions and the Civil Construction Plan for Vallenar Bay Road convey the intent of the Division of Forestry. In the event of a conflict between documents, the project engineer will determine the order of precedence.

Italics indicate an edit or note regarding the regulation.

Standard Best Management Practice Requirements

11 AAC 95.265. Classification of surface water bodies. (a) (a) Classification of surface water bodies by an operator or by an agency must be made.

Classification of known surface water bodies has been made by the agency.

They are documented in the Forest Land Use Plan titled:

Access of the Vallenar Bay Timber Sale SSE-1345 K.

11 AAC 95.275. Uses within a riparian area. (a) The following operations are allowed within a riparian area without the necessity of obtaining a variation under AS 41.17.087:

(1) road building and associated activities performed in accordance with 11 AAC 95.285(b);

(2) a water body crossing built in accordance with 11 AAC 95.300;

(3) felling and removal of hazardous trees along roadways as required by state or federal law;

(4) *omitted and not applicable to this project (3/26/2015)*;

(5) installation of blocks, or similar devices on a tree required for retention under this chapter if

the device is installed to minimize damage to the tree;

(6) the use, as lift trees or tail holds, of trees required for retention under this chapter;

(7) the hanging of rigging through the riparian area if necessary to be consistent with operator safety requirements and to have a clear line of sight and working area for the rigging;

(8) in the case of a riparian area on land identified in AS 41.17.118 and 41.17.119 only, yarding corridors and other logging methods that do not cause a significant adverse impact to the riparian habitat.

(b) The operations identified in (a)(1), (2), and (4) of this section *shall be identified in the FLUP* and comply with AS 41.17 and this chapter.

(c) The felling of trees identified in (a)(3) of this section need not be identified in the *FLUP* or comply with AS 41.17 and this chapter.

(d), (e) and (f) *omitted and not applicable to this project (3/26/2015)*;

(g) Activities described in this section that are conducted within a riparian area must be done in compliance with the slope stability standards of 11 AAC 95.280(d).

11 AAC 95.280. Slope stability standards. (a) *omitted and not applicable to this project (3/26/2015).*

(b) The slope stability standards apply within 100 feet of an ordinary high water mark of an anadromous or high value resident fish water body, or a water body with a gradient of 12 percent or less that is tributary to an anadromous or high value resident fish water body, and within 50 feet of all other tributaries to anadromous and high value resident fish water bodies.

(c) The break of a slope is the point where the slope extending up from the top of the stream bank changes to the lower angle slope of the adjacent upland. For purposes of measurement, the break of a slope is where the degree of slope is reduced by 20 percent or more when measured away from the stream.

(d) An operator shall adhere to the following standards when conducting construction activity in an area identified in (b) of this section:

(1) avoid constructing a road that will undercut the toe of a slope that has a high risk of slope failure;

(2) omitted and not applicable 3/26/2015.;

(3) achieve full or partial suspension in yarding operations;

(4) fall timber away from streams in V-notches; and

(5) avoid sidecasting of displaced soil from road construction to the maximum extent feasible.

Article 3. Road construction

11 AAC 95.285. Road location.

(a) *omitted and not applicable to this project (3/26/2015).*

(b) A road may not be located in a riparian area except where access is needed to a water body crossing, or where there is no feasible alternative. A stream crossing or a road in any riparian area must be designed and located to minimize significant adverse effects on fish habitat and on water quality.

11 AAC 95.290. Road construction. (a) When constructing a forest road on a slope, an operator, where feasible, shall avoid locating a road on a slope greater than 67 percent or on an unstable slope. If avoiding that slope is not feasible, site-specific measures must be planned to address slope instability due to road construction. The measures must be approved by the division and must meet the requirements of (b) of this section.

(b) If constructing a road on a slope greater than 67 percent or on an unstable slope is necessary, an operator

(1) may not bury any of the following material except as puncheon across swampy ground or for culvert protection:

(A) a log chunk of more than five cubic feet in volume or a loose stump, in the load-bearing portion of a road;

(B) any significant amount of organic debris within the load-bearing portion of a road;

(C) excessive accumulation of debris or slash in the road-bearing portion of a road fill;

(2) shall balance cuts and fills so that as much of the excavated material as is feasible is deposited in the roadway fill section; however, unstable fill material may not be used, and cuts must be minimized where fine textured soils are known or encountered; and

(3) may not conduct excavation and blasting activities during saturated soil conditions if mass wasting is likely to result and cause degradation of surface or standing water quality.

(c) To prevent or minimize sedimentation, an operator shall treat unstable soils with effective and appropriate erosion control measures such as grass seeding, erosion control mats, or end-

hauling of materials.

(d) An operator shall use end-hauling and full-bench construction techniques if mass wasting from overloading on an unstable slope or erosion of sidecast material is likely to occur and cause degradation of surface or standing water quality.

(e) Notwithstanding the provisions of 11 AAC 95.355, when constructing a forest road, an operator shall, where feasible, fell trees away from fish-bearing surface waters and from standing waters, and shall fell trees away from other surface where feasible and if necessary to avoid degradation of water quality. An operator shall comply with the following standards when constructing a forest road:

(1) an operator may not fell a tree into anadromous fish waters catalogued under AS 16.05.871 without prior written approval of the Department of Fish and Game;

(2) if a tree is felled into fish-bearing waters not catalogued under AS 16.05.871, the operator shall remove the limbs and other small debris within 48 hours, and shall remove the bole as soon as the necessary equipment is at the site;

(3) if a tree is felled into nonfish-bearing surface waters and standing waters, the operator shall remove debris at the earliest feasible time when necessary to avoid degradation of water quality.

(f) *omitted and not applicable to this project (3/26/2015).*

(j) Spoil, waste, and overburden that is generated during construction and not sidecasted shall be deposited in a suitable upland site stabilized by effective and appropriate erosion control measures. Disposal must also meet the standards set out in 11 AAC 95.325, 11 AAC 95.815, and 18 AAC 60.

(k) Where feasible, the running surface of a road must use material that will minimize erosion of the road surface and prevent degradation of water quality.

(l) A person may not operate construction equipment or machinery in

(1) an anadromous fish water catalogued under AS 16.05.871 without written approval of the Department of Fish and Game, or

(2) any other surface waters, without prior notice to the division.

11 AAC 95.295. Road drainage. (a) This section sets out the drainage standards that apply to a forest road.

(b) An operator shall minimize the erosion of a road bed, cut bank, and fill slope through the use

of cross drains, ditches, relief culverts, bridges, water bars, diversion ditches, or other structures demonstrated to be effective. These drainage structures shall be installed at all natural drainages and must be spaced at least as frequently as set out in the following table:

SPACING OF DRAINAGE STRUCTURES (in feet)

PERCENT OF GRADE		
REGION I		
0 to 2	Meet other standards of this section	
2 to 7	1,000	1,500
8 to 15	800	1,000
Over 15	600	800

More frequent drainage structure spacing or other drainage improvements must be used where site-specific conditions of peak flows or soil instability makes additional drainage structures necessary to prevent degradation of standing or surface water quality. Less frequent drainage spacing is permissible if the parent material of the roadway is not erodible, such as rock or gravel; the topography or other local conditions are not conducive to erosion; or the degradation of surface or standing waters is not likely to occur.

(c) During road construction, an operator shall install the appropriate ditches, culverts, cross drains, drainage dips, water bars, and diversion ditches when the natural drainage is crossed with the roadbed material.

(d) A road shall be outsloped or ditched on the uphill side.

(e) In the event an incomplete road is left over the winter season or other extended period, an operator shall, before suspending operations, provide adequate interim drainage by outsloping or cross draining the road, or by the use of water bars and diversion ditches.

(f) An operator shall to the extent feasible direct ditchline water away from unstable soils and surface waters, and onto vegetated areas.

(g) To minimize sedimentation of standing and surface waters, marshes, and non-forested muskegs caused by drainage from road surfaces and ditches, an operator shall use measures such as settling basins, cross drains, or vegetated areas.

(h) A relief culvert installed on a forest road must be at least 18 inches in diameter or the equivalent capacity, and be installed sloping toward the downslope edge of the road at a minimum gradient of three percent.

(i) A cross drain, relief culvert, or diversion ditch may not discharge onto erodible soil or over fill slopes unless adequate outfall protection is provided and slope stability is ensured.

(j) A drainage structure must also comply with the directional and placement requirements of 11 AAC 95.305.

11 AAC 95.300. Bridge standards. (a) An operator shall install a bridge on a forest road according to the following standards:

(1) *omitted and not applicable to this project (3/26/2015)*;

(2) *omitted and not applicable to this project (3/26/2015)*;

(3) an earth embankment constructed for use as a bridge approach must be protected from erosion by using planted or seeded ground cover, bulkheads, rock riprap, retaining walls, or other equally effective means;

(4) *omitted and not applicable to this project (3/26/2015)*;

(5) *omitted and not applicable to this project (3/26/2015)*;

(6) a bridge must be installed to provide fish passage in accordance with AS 16.05.841;

(7) *omitted and not applicable to this project (3/26/2015)*;

(8) a bridge must be installed in such a way as to minimize disturbance to the bed and banks of a stream.;

(b) In addition to the requirements of (a) of this section, when installing a new bridge or replacing an existing bridge on a forest road that crosses anadromous fish waters, the installation must be in accordance with the standards set out in (c) of this section. In anadromous fish waters catalogued under AS 16.05.871, an operator may not cross the water body with equipment, install a bridge or conduct excavation for bridges, place sills or abutments, or place stringers or girders within the ordinary high-water marks without prior written approval from the Department of Fish and Game. If prior written approval is required by the Department of Fish and Game under AS 16.05.871, an operator shall comply with that department's requirements instead of the standards of (c) of this section.

(c) When installing a bridge over anadromous waters that have not been catalogued under AS 16.05.871, an operator shall:

(1) *omitted and not applicable to this project (3/26/2015)*;

(2) *omitted and not applicable to this project (3/26/2015)*;

(3) *omitted and not applicable to this project (3/26/2015)*;

(4) schedule bridge building activity to occur during a period that will avoid or reduce adverse impact on fish; and

(5) *omitted and not applicable to this project (3/26/2015).*

(d) An operator may not narrow an anadromous stream between its ordinary high water marks.

11 AAC 95.305. Culverts and other water crossing provisions. (a) An operator shall install a culvert on a forest road according to the following standards:

(1) *omitted and not applicable to this project (3/26/2015)*;

(2) *omitted and not applicable to this project (3/26/2015)*;

(3) for fish-bearing waters, the entrance, to the extent possible, and exit of a stream culvert must match the natural course of a stream channel; a culvert may not be perched at its inlet or outlet.

(4) a culvert must terminate on material that will not readily erode, such as riprap, the original streambed if stable, or other suitable materials;

(5) a change may not be made in the course or channel of anadromous fish waters catalogued under AS 16.05.871 without giving notice to the division and receiving written approval of the Department of Fish and Game; a change may not be made in the course or channel of other waters that are significant for protection of downstream water quality, without prior notice to the division;

(6) when a flume, downspout, downfall culvert, or similar structure is used to protect fill slopes or to return water to its natural course, the discharge point shall be protected from erosion by

(A) reducing the velocity of the water;

(B) using rock spillways, riprap, or splash plates; or

(C) using equally effective methods or structures;

(7) for nonfish-bearing waters, the area of a stream bed from a culvert inlet to 50 feet upstream from the culvert inlet must be cleared of mobile slash or debris that may be expected to plug a culvert;

(8) to prevent or minimize sedimentation, the entrance of a relief culvert must have adequate and appropriate catch basins, consistent with physical features of the ground; a headwall must be used to direct ditch water into cross drains;

(9) a culvert must be of sufficient length to prevent road overlay materials from blocking an end of the culvert.

(b) *omitted and not applicable to this project (3/26/2015)*;

11 AAC 95.315. Road maintenance. (a) For purposes of the road maintenance requirements of this section, a landing is considered part of a road.

(b) An operator shall conduct the following maintenance on an active road:

(1) keep culverts, flumes, and ditches functional;

(2) if a settling basin is used, keep an adequate reserve volume; sediment removed from a settling basin during maintenance operations must be deposited in a location where it is not likely to enter nearby surface waters;

(3) perform road surface maintenance as necessary to minimize erosion of the surface and the subgrade;

(4) during operations, keep the road surface crowned or outsloped, and keep the downhill side of the road free from berms except those intentionally constructed for protection of fill;

(5) when grading on a nonrock-decked bridge, minimize the deposit of road surface material on the bridge surface; and

(6) when grading on a rock-decked bridge, avoid pushing material over the rub rails or through gaps in the bridge surface.

(c) An operator or forest landowner shall conduct the following maintenance on an inactive road:

(1) as soon as feasible following termination of active use, keep ditches and drainage structures maintained as necessary to assure water flow and fish passage;

(2) keep the road surface crowned, outsloped, water barred, or otherwise left in a condition not conducive to erosion; and

(3) except as provided in (d) of this section, keep ditches and drainage structures clear and in good repair.

(d) An operator or forest landowner is not subject to the penalties or liable for the monetary damages under AS 41.17 for any damage occurring from a condition brought about by public use of a road, unless an operator or forest landowner fails to make repairs under a directive of the division.

(e) If necessary to prevent significant degradation of surface water quality or fish habitat, the division will, in its discretion, require an operator or forest landowner to perform the following activities:

(1) install additional or larger culverts or other drainage improvements as determined necessary by the division;

(2) provide additional road maintenance;

(3) *omitted and not applicable to this project (3/26/2015)*; and

(4) rehabilitate unstable or erodible exposed soils by a suitable method to minimize siltation of surface waters.

11 AAC 95.325. Material extraction and disposal sites. (a) If feasible, an operator must verify that suitable material is present at a proposed extraction site before stripping the entire site of surface soils. A material extraction site must be located in an area

(1) that is outside surface waters, standing waters, and marshes;

(2) that is outside non-forested muskegs, except with prior notice to the division;

(3) with a low risk of siltation to surface water;

(4) where the risk of causing significant harm to fish habitat through soil erosion and mass wasting is minimal;

(5) where there is adequate and appropriate sediment filtering vegetation or equivalent treatment;

(6) that is outside a riparian area unless inside a riparian area is authorized by the division; a material extraction site located in a braided, glacial flood plain may be subject to AS 41.14; and

(7) that will not cause hydrologic changes such as dewatering a stream.

(b) An operator shall locate an area to deposit material extraction site overburden and end hauling material

(1) that is outside surface waters, standing waters, marshes, and non-forested muskegs;

(2) with a low risk of siltation to surface water;

(3) where the risk of causing significant harm to fish habitat through soil erosion and mass wasting is minimal;

(4) where there is adequate and appropriate sediment filtering vegetation or equivalent

treatment; and

(5) that is outside a riparian area.

(c) During the construction and use of a material extraction site or a soil disposal site, runoff water must either be diverted onto the forest floor or intercepted and passed through one or more settling basins. When a settling basin is used, it must be maintained to have an adequate reserve volume. Sediment removed from a settling basin during a maintenance operation must be deposited in a location where it is not likely to enter any nearby surface waters.

(d) An operator shall rehabilitate a material extraction site or a soil disposal site after the material source is exhausted or abandoned, or operations at the disposal site are completed. Within the first growing season after abandonment of an extraction site or completion of disposal operations, an operator shall

(1) remove and place in a stable location all material that has potential for entering surface or standing waters, or that would prevent reforestation of an otherwise plantable area; and

(2) where necessary to prevent erosion, stabilize a disposal site and all exposed erodible soils by

(A) revegetation with grass, clover, ground cover, or, if possible, native ground cover;

(B) compacting, rip rapping, water barring, benching, or mulching; or

(C) other means required by the division.

(e) If degradation of water quality occurs due to erosion from an abandoned material extraction or disposal site, the forest landowner, the operator, or the person responsible for creating the condition, must correct the problem.

11 AAC 95.330. Rehabilitation after mass wasting. (a) Where mass wasting is caused by operations, the operator shall, to the extent feasible, take effective and appropriate measures to stabilize the slide path and all associated exposed soils, such as grass seeding, erosion control mats, excavation of the head wall to the angle of repose, placement of ballast to control mass wasting, or other effective slope stabilization method.

(b) The division will, in its discretion, require an operator to remove debris from surface waters impacted by mass wasting, to the degree necessary to restore water quality or fish habitat.

(c) Ditchline water must be directed away from mass wasting and into vegetated areas.

11 AAC 95.335. Blasting standards. (a) A person may not discharge an explosive in the following areas without first obtaining a variation under 11 AAC 95.235:

(1) Type I-A or Type I-B stream riparian areas in Region I;

(b) During blasting, an operator shall minimize the amount of flyrock materials deposited into fish-bearing waters.

11 AAC 95.810. Measurement of distances. When a distance is specified in AS 41.17 or this chapter, the following applies:

(1) the distance measured must be horizontal distance rather than slope distance;

(2) the distance from a tidal zone is measured from the line of mean higher high water mark; and

11 AAC 95.815. Disposal of waste material. (a) A petroleum product may not be disposed of onto land or into waters.

(b) Waste material, such as crankcase oil, fuel, grease, filters, hydraulic fluid and their containers, machine parts, wire rope, oil-contaminated soils, scrap culverts, or similar scrap wastes resulting from forest operations, must be disposed of in accordance with 18 AAC 60 and 18 AAC 62.

(c) Petroleum products and waste material as identified in this section must be handled in a manner that does not violate the water quality standards of 18 AAC 70.

11 AAC 95.900. Definitions. In this chapter, unless the context specifically states otherwise:

(1) **"active road"** means a forest road being actively used for hauling logs, pulpwood, chips, or other major forest products, or rock and other road building materials;

(2) **"agencies"** means the Department of Fish and Game, the Department of Environmental Conservation, and the Division of Forestry within the Department of Natural Resources;

(3) **"agency"** means the Department of Fish and Game, Department of Environmental Conservation, or the Division of Forestry within the Department of Natural Resources;

(4) **"angle of repose"** means the angle at which a cut or fill slope will stand naturally;

(5) **"appropriate"** means warranted in light of potential effects on public resources;

(6) **"approved device"** includes conventional and portable stoves, fireplaces, and incinerators with adequate safeguards to prevent escapement of fire;

(7) **"bedrock"** means solid rock or accumulation of material more than three feet in diameter that predominate within a streambed or streambank;

(8) **"burning"** includes setting fires and excludes smoking;

(9) *omitted and not applicable to this project (3/26/2015)*;
(10) *omitted and not applicable to this project (3/26/2015)*;
(11) **"commercial tree species"** means any species that is capable of producing a merchantable stand of timber on a particular site or is being grown as part of a Christmas tree or ornamental tree-growing operation;

(12) **"commissioner"** means the commissioner of natural resources or the commissioner's authorized designee;

(13) **"conversion"** means a bona fide land use conversion to a use that is incompatible with timber growing;

(14) **"cribbing"** means brush, small poles, or small diameter logs used to increase the structural integrity of a snow ramp or ice bridge;

(15) **"cross drain"** means a cross ditch used to move water from one side of a road to the other to prevent accumulation of runoff without the need of a culvert or bridge;

(16) **"crowned"** means the running surface of a road is made higher in the center to direct runoff away from the centerline and into roadside ditches;

(17) **"DBH"** means the diameter of a tree at breast height (commonly four and one-half feet);

(18) **"debris"** means woody vegetative residue less than four inches in diameter and less than three feet in length resulting from a forest practice operation;

(19) **"degradation of water quality"** means a decrease in water quality such that the affected waters are unable to fully maintain existing or designated uses; "degradation of water quality" does not include changes that are temporary, localized, and reparable decreases in water quality; in this paragraph

(A) "reparable" means an effect on, or change to, a use or aquatic system due to a decrease in water quality that is reversible by natural processes such that the use or system will return to a state functionally identical to the original;

(B) "temporary" means 48 hours or less with respect to existing uses;

(20) **"department"** means the Department of Natural Resources;

(21) **"designated uses"** means those protected water uses specified in 18 AAC 70.020 for each water body or segment of a water body;

(22) **"division"** means the division of forestry in the department;

(23) **"end hauling"** means the removal and transportation of excavated material, pit or quarry overburden, or landing or road cut material from an excavation site to a deposit site not adjacent to the point of removal;

(24) **"erodible soils"** means soils exposed or displaced by a forest practice operation and soils that would be readily moved by the erodible force of moving water;

(25) **"estuarine area"** means that area at the mouth of a Type I-A, II-A, II-B, II-C, or II-D stream where fresh and salt water mix; the landward extent of an estuary is the limit of salt-tolerant vegetation, and the seaward extent is a stream's delta at mean lower low water;

(26) **"existing uses"** means those uses actually attained in a water body on or after November 28, 1975;

(27) **"fall"** means a free fall or precipitous descent of water or a fast white water cascade;

(28) **"fatally damaged tree"** means a tree that is damaged to the extent that it is unlikely to survive; breakage of limbs or tips, bark scrapes, or notching of a tree for tail holds does not constitute fatal damage as long as the tree is likely to survive;

(29) **"feasible"** means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, technical, and safety factors;

(30) **"first entry"** means the initial period of entry during a rotation or cutting cycle;

(31) **"fish-bearing waters"** means waters containing anadromous or high-value resident fish at any time during the year;

(32) **"forest practices forester"** means the field person assigned by the commissioner to implement AS 41.17;

(33) **"full suspension"** means lifting the load completely clear of the ground, including obstacles;

(34) **"gravel"** means streambed and streambank material ranging in size from 0.16 inches to 2.5 inches in diameter;

(35) **"half holiday"** means an agency office is closed a portion of a day for circumstances beyond the control of the agency;

(36) **"inactive road"** means a forest road on which commercial hauling is discontinued for one or more logging seasons, and the forest landowner desires continuation of access for fire control, forest management activities, occasional or incidental use for forest products harvesting, or similar activities;

(37) **"incised channel"** means a channel having banks that, when viewing a vertical cross section through the water body, are sharply angular or perpendicular to water flow, are capable of containing the flow of the stream at annual high water, and in which the top of the embankment is at least six feet above the water surface during normal flow;

(38) **"infestation"** means attack and invasion by macroscopic organisms in considerable concentration;

(39) **"lake or pond"** means

(A) a confined fresh water body with perennial water, defined shorelines, and an identifiable inlet and outlet; and

(B) a confined fresh water body with perennial standing water and defined shorelines, and without an identifiable inlet or outlet, if the water body contains a population of anadromous or high value resident fish;

(40) **"landing"** means the location where logs are deposited by yarding or skidding equipment, including helicopters;

(41) **"load-bearing portion"** means that part of a road, landing, or other surface that consists of supportive soil, earth, rock, or other material directly below the working surface and the associated earth structure necessary for support of a part of a road;

(42) **"low value"** has the meaning given in AS 41.17.116(d)(1);

(43) **"marsh"** means a frequently or continually inundated area of saturated soils characterized by emergent reeds, grasses, and sedges;

(44) **"mass wasting"** means the slow to rapid downslope movement of significant masses of earth material of varying water content, primarily under the force of gravity;

(45) **"material"** means the same as in 11 AAC 71.910;

(46) **"material extraction site"** means an excavation site outside the limits of construction where material necessary for that construction, such as fill material, are extracted;

(47) **"mean higher high water mark"** means, for estuaries, an elevation below which the presence of marine water is so common and of sufficient duration as to prevent establishment of forest floor mosses and other salt-intolerant vegetation;

(48) **"mineral soil"** means a soil containing insufficient organic material to sustain fire;

(49) **"minimize"** means to limit to the extent feasible, and does not include the requirement of improving naturally existing conditions;

(50) **"non-forested muskeg"** means an expanse of saturated, poorly drained soil, including a swamp or bog, that is characterized by accumulation of peat or partially decayed plant matter, has no significant inflows or outflows, supports acidophilic mosses, and is not stocked with trees;

(51) **"normal channel flow conditions"** means that a stream's discharge is approximating mean flow as determined by a nonquantitative field assessment; this condition would usually

occur no earlier than 2 days after a significant rain event; this condition would not occur during active snow melt, a distinct drought period, freeze up, or any other extraordinary conditions;

(52) **"operation"** means the same as in AS 41.17.950; except that in 11 AAC 95.340 -- 11 AAC 95.390, "operation" also includes land clearing activities on forest land;

(53) **"ordinary high water mark"** or "OHWM" means the mark along the bank or shore up to which the presence and action of the tidal or nontidal water are so common and usual, and so long continued in all ordinary years, as to leave a natural line impressed on the bank or shore and indicated by erosion, shelving, changes in soil characteristics, destruction of terrestrial vegetation, or other distinctive physical characteristics;

(54) **"organic mat"** means the dead and living layer of plant material that has accumulated over time on the surface of the mineral soil;

(55) **"outsloping"** means to shape the running surface of a road in a manner that carries runoff to the downslope side of the road; "outsloping" is used for roads without roadside ditches;

(56) **"partial cut"** means tree removal other than a clear cutting, such as removing only part of a stand;

(57) **"permanent,"** when used to describe a road, or when used to describe a bridge, culvert, or other crossing structure, means a road or structure that will be left in place for at least seven years from the date of original construction;

(58) **"physical blockage"** means a natural feature or an authorized artificial structure that prevents upstream migration of fish, including a presumed physical blockage under 11 AAC 95.265(g)(4);

(59) **"presence or evidence of anadromous fish"** means the documented occurrence of live anadromous fish, eggs, or their remains;

(60) **"project"** means

(A) for private and other public land as defined under AS 41.17.950, a detailed plan of operation as described under 11 AAC.95.220,

(B) for state land, an activity or use under a forest land use plan adopted under the authority of AS 38.05.112; and

(C) an activity subject to federal consistency review under 33 U.S.C. 1329 (Clean Water Act, sec. 319), as amended February 4, 1987;

(61) **"prudent"** has the meaning given in AS 41.17.116 (d)(2);

(62) **"puncheon"** means a slab of timber used for flooring or footing, or woody material used as a mat in overlay road construction;

(63) **"reforest"** means the successful reestablishment of commercial tree species following

harvest;

(64) **"Region I," "Region II," and "Region III"** have the meanings given in AS 41.17.950.

(65) **"rehabilitate"** means to control and stabilize erodible material to the extent feasible, through construction of a control structure, revegetation, or another method;

(66) **"relief culvert"** means a structure to relieve surface runoff from roadside ditches to prevent excessive buildup in water volume and velocity;

(67) **"residual trees"** means commercial tree species left standing in a harvest unit or other specified area after completion of harvest or, for purposes of 11 AAC 95.375, immediately before beginning reforestation activities in that unit or area;

(68) **"road reconstruction"** means the process of making an inactive or closed road useable, including reinstalling drainage structures, removing vegetation, and resurfacing;

(69) **"rubble"** means streambed or streambank material ranging in size from 2.5 inches to 3 feet in diameter;

(70) **"sand"** means streambed or streambank material with a diameter of 0.1 mm to 0.4 mm;

(71) **"sapling"** means a live tree 1.0 inch to 5.0 inches in DBH;

(72) **"saturated soil"** means soil that has all of its voids completely filled with water, to the point where the addition of any further water will result in a rising surface water table;

(73) **"seedling"** means a live tree less than 1.0 inches in DBH, or under 10 feet tall;

(74) **"sidecasting"** means the act of moving excavated material to the side and depositing that material within the limits of construction or dumping it over the side and outside the limits of construction;

(75) **"silt"** means streambed or streambank material with a diameter of less than 0.1 mm;

(76) **"skid trail"** means a route used by tracked or wheeled skidders to move logs to a landing or road;

(77) **"slash"** means pieces of woody vegetative residue greater than five inches in diameter or longer than three feet in length resulting from a forest practice operation;

(78) **"spoil"** means excess material removed as overburden or generated during road or landing construction that is not used within the limits of construction;

(79) **"spring"** means a place where subterranean water naturally flows from a rock or soil upon the land or into a body of surface water;

(80) **"standing water"** means a water body, one half acre or larger, that has defined banks but no surface outlet;

(81) **"state forester"** means the same as in AS 41.17.020 and, for the purposes of administering this chapter, includes division employees to whom the state forester has delegated responsibility for carrying out AS 41.17 and this chapter;

(82) **"stream"** means a perennial flow of water along a defined channel, or an intermittent flow of water along a defined channel that is significant for protection of downstream water quality;

(83) **"substantial factor"** means a proximate or direct cause among two or more causes operating to bring about or give rise to an injury and that is a cause which reasonable persons would regard as a basis for responsibility for that injury;

(84) **"surface waters"** means fresh water springs, lakes, or ponds, or a freshwater stream the designated uses of which are protected under 18 AAC 70, regardless if those waters are classified under AS 41.17.950(31) – (41);

(85) **"temporary,"** when used to describe a road, or when used to describe a bridge, culvert, or other stream crossing structure, means a road or structure that will be left in place for a period of less than seven years from the date of original construction;

(86) **"timber"** means merchantable trees, standing or down, of a commercial tree species;

(87) **"vegetative reproduction"** means coppice, suckering, or sprouting from the roots or stump sprouts or from buds around the root collar;

(88) **"vigorous"** means live, free of disease or gross defects, exhibiting terminal or annual growth, capable of continued growth, and appears able to survive until the end of rotation; a conifer must contain a minimum of one third live crown;

(89) **"water bar"** means a diversion ditch or hump created in a trail or road for the purpose of carrying surface water runoff into the vegetation duff, ditch, or other dispersion area so that it does not gain the volume and velocity that cause soil movement and erosion;

(90) **"well distributed"** means that average stocking levels meet or exceed the minimum standards with no more than 10 percent of the harvest unit excluding roads, landings, and material sites, below minimum standards;

(91) **"windthrown"** means a natural process by which trees are uprooted or sustain severe damage by the wind;

(92) **“winter road”** means a road that has a load-bearing capacity derived from a combination

of frost, snow, or ice that can seasonally support highway vehicles and logging equipment;

(93) **"fine textured soil"** means mineral soil with a texture of silty-clay, sandy-clay, or clay;

(94) **"unstable fill material"** means organic debris, organic soil, or fine textured soil;

(95) **"unstable slope"** means a slope exhibiting mass wasting or where mass wasting is likely to occur.

AS 41.17.950. Definitions. In this chapter, unless the context otherwise requires,

(1) "anadromous water body" means the portion of a fresh water body or estuarine area that

(A) is cataloged under AS 16.05.041 as important for anadromous fish; or

(B) is not cataloged under AS 16.05.871 as important for anadromous fish but has been determined by the Department of Fish and Game to contain or exhibit evidence of anadromous fish in which event the anadromous portion of the stream or waterway extends up to the first point of physical blockage;

(2) *omitted and not applicable to this project (3/26/2015)*;

(3) "board" means the Board of Forestry established in AS 41.17.041;

(4) "broadcast chemicals" includes pesticides, herbicides, fungicides, fertilizers, poisons, and any other substances

(A) used for silvicultural management or related purposes;

(B) not native to the ecosystem in which they are being applied; and

(C) having a foreseeable adverse impact on the welfare of renewable resources, as determined by the commissioner of environmental conservation;

(5) *[Repealed §38, E.O. No. 114 (2008))*

(6) "division" means the division of forestry;

(7) "forest land" means land stocked or having been stocked with forest trees of any size and not currently developed for nonforest use, regardless of whether presently available or accessible for commercial purposes, and includes any such land under state, municipal, or private ownership;

(8) "forest landowner" means a person who owns forest land, but does not include the owner of mineral or subsurface rights only;

(9) "glacial," with respect to a water body, as used in the phrases "glacial high value resident fish water body" and "glacial anadromous water body," means that, under normal conditions, a water body receives significant surface flow from a glacier; "glacial," with respect to a water body, includes a water body that receives a mix of glacial water and water from other sources;

(10) "high value resident fish" means resident fish populations that are used for recreational, personal use, commercial, or subsistence purposes;

(11) "multiple use" means

(A) the management of all the various resources of forest land so that they are used in the combination that will best meet the needs of the citizens of the state, making the most judicious use of the land for some or all of these resources or related values, benefits, and services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions;

(B) that some land will be used for less than all of the resources; and

(C) harmonious and coordinated management of the various resources, each with the other, without significant impairment of the productivity of the land and water, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output;

(12) "nonglacial," with respect to a water body, as used in the phrases "nonglacial high value resident fish water body" and "nonglacial anadromous water body," means that, under normal conditions, a water body does not receive significant surface flow from a glacier;

(13) "operations" means timber harvesting or activities associated with timber harvesting or forest development unless exempted under AS 41.17.900(a) - (c);

(14) "operator" means a person who is engaged in timber harvesting or activities associated with timber harvesting or forest development, or who contracts with others to conduct operations for that person, except a person who is engaged in an operation as an employee with wages or piecework as the sole compensation;

(15) "ordinary high water mark" means the mark along the bank or shore up to which the presence and action of the tidal or nontidal water are so common and usual, and so long continued in all ordinary years, as to leave a natural line impressed on the bank or shore and indicated by erosion, shelving, changes in soil characteristics, destruction of terrestrial vegetation, or other distinctive physical characteristics;

(16) "other public land" means state land managed by state agencies other than the department, land owned by a municipality, and land owned by the University of Alaska;

(17) *omitted and not applicable to this project (3/26/2015)*;

(18) "person" has the meaning given in AS 01.10.060 and also includes a joint venture;

(19) *omitted and not applicable to this project (3/26/2015)*;

(20) "Region I" means all land in Southeast Alaska, plus all land that is south of the crest of the Chugach Mountains and Saint Elias Mountains and east of a line running from the crest of the Chugach Mountains to O'Malley Peak, then southerly to Gull Rock, then southwesterly to the eastern junction of Skilak Lake Road and the Sterling Highway, then southwesterly to the mouth of the Fox River, then southwesterly through Kachemak Bay to Mt. Douglas, plus all land on the Alaska Peninsula between Mt. Douglas and Cape Kumliun that is east of the crest of the Aleutian Range, plus all islands in the Gulf of Alaska north of 56 degrees 23 minutes North latitude;

(21) *omitted and not applicable to this project (3/26/2015)*;

(22) *omitted and not applicable to this project (3/26/2015)*;

(23) "riparian area" means

(A) the areas subject to riparian protection standards in AS 41.17.116(a) and (c) on private land in Region I;

(B) *omitted and not applicable to this project (3/26/2015)*; (C) the area 100 feet from the shore or bank of an anadromous or high value resident fish water body on state land managed by the department and on other public land in Region I;

(24) "significant impairment of the productivity of the land and water" means an activity that may foreseeably result in prolonged or substantial damage to renewable resources or prolonged or substantial reduction of the continuing capability of the land or water to produce renewable resources at their natural or historic levels;

(25) "silviculture" means the art of producing and tending a forest, the application of the knowledge of silvics in the treatment of a forest, and the theory and practice of controlling

and managing forest establishment, composition, and growth;

(26) "state forest" means an area designated by the legislature and retained in state ownership in order to

(A) provide a base for sustained yield management of renewable resources; and

(B) permit a variety of beneficial uses;

(27) "sustained yield" means the achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of forest land and water without significant impairment of the productivity of the land and water, but does not require that timber be harvested in a non-declining yield basis over a rotation period;

(28) *omitted and not applicable to this project (3/26/2015)*;

(29) *omitted and not applicable to this project (3/26/2015)*;

(30) "timber owner" means a person who owns timber on forest land or who has the rights to timber, but does not own the land itself;

(31) "Type I-A water body" means, in Region I, an anadromous water body that

(A) is a stream or river of any size having an average gradient of eight percent or less, with banks held in place by vegetation, channels that are not incised, and a substrate composed of rubble, gravel, sand, or silt;

(B) consists of wetlands and lakes, including their outlets; and

(C) is an estuarine area delimited by the presence of salt-tolerant vegetation;

(32) "Type I-B water body" means, in Region I, an anadromous water body that does not meet the definition of a Type I-A water body;

(33) "Type I-C water body" means, in Region I, a water body that is not anadromous, that is a tributary to a Type I-A or Type I-B water body, and that has a gradient of 12 percent or less.

(34) "Type I-D water body" means, in Region I, a water body that is not anadromous, that is tributary to a Type I-A or Type I-B water body, and that has a gradient greater than 12 percent.

11 AAC 71.910. Definitions.

(8) "material" includes, but is not limited to, the common varieties of sand, gravel, stone, pumice, pumicite, cinders, clay, topsoil, peat, and sod.

Permits (ADFG Fish Habitat Permits)

FH-15-VII-0018
FH-15-VII-0019
FH-15-VII-0020
FH-15-VII-0021