

## CalTREES THP ITEM #14 - SILVICULTURE

### ITEM #14 – SILVICULTURE

- Check the Silvicultural methods or treatments allowed by the Forest Practice Rules to be applied under this THP.
- If more than one method or treatment will be used identify the boundaries on a map per 14 CCR §1034(x)(2)
- List the approximate acreage for each method identified.

a.	Even aged	ACRES	
<input checked="" type="checkbox"/>	Clear cutting	035	<b>EVENAGED REGENERATION METHODS</b> <b>(14 CCR § 913.1 [933.1, 953.1]) (All Districts)</b>  <b>NOTE: variation by District in (a)(4)(A) and (d)(3) Shelterwood Removal Step</b>
<input type="checkbox"/>	Seed Tree Seed Step		
<input checked="" type="checkbox"/>	Seed Tree Removal Step	037	
<input type="checkbox"/>	Shelterwood Preparatory Step		
<input type="checkbox"/>	Shelterwood Seed Step		
<input checked="" type="checkbox"/>	Shelterwood Removal Step	026	
	<b>Uneven aged</b>		
<input type="checkbox"/>	Selection		
<input checked="" type="checkbox"/>	Group Selection	088	
<input checked="" type="checkbox"/>	Transition	041	
	<b>Intermediate Treatments</b>		<b>INTERMEDIATE TREATMENTS</b> <b>(14 CCR §913.3 [933.3, 953.3])</b>
<input type="checkbox"/>	Commercial Thinning		
<input type="checkbox"/>	Sanitation Salvage		
	<b>Alternative</b>		<b>ALTERNATIVE PRESCRIPTIONS (ALL DISTRICTS)</b> <b>(14 CCR §913.6 [933.6, 953.6])</b>
<input type="checkbox"/>	Alternative Prescription		
	<b>Special Prescriptions</b>		<b>SPECIAL PRESCRIPTIONS</b> <b>(14 CCR §913.4 [933.4, 953.4])</b>  RPF is required to include specific information when Restoration or Oak woodland management is selected. The FPR element forms are provided at the end. Indicate the specific acreage for each type of restoration or oak area on these forms.
<input type="checkbox"/>	Special Treatment Area Prescription		
<input type="checkbox"/>	Rehabilitation of Under stocked Area Prescription		
<input type="checkbox"/>	Fuel Break / Defensible Space		
<input type="checkbox"/>	Variable Retention		
<input type="checkbox"/>	Restoration – Aspen, Meadow, & Wet Area		
<input type="checkbox"/>	Ca. Black and Oregon White Oak Woodland Management		
	<b>Non-regeneration</b>		<b>NON REGENERATION HARVESTING</b>
<input type="checkbox"/>	Conversion		
<input type="checkbox"/>	Road Right-of-way		
<input type="checkbox"/>	No Harvest		

<b>TOTAL ACREAGE:</b>	<b>227</b>	If acreage is different than acreage listed in the legal description provide explanation:

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Table 1 – Acreages by Unit and Silviculture				
Unit	Yarding Method	Silviculture	Yarding Acres	Silvicultural Acres*
A	T	GSL/STR	25	21+4 = 25
B	T/C	GSL/CC	8+41 = 49	25+24 = 49
C	C	GSL/CC	15	4+11 = 15
D	T/C	GSL/TR/STR/SWR	67+55 = 122	22+41+33+26=122
E	T	GSL	16	16

\*Note: example: Unit A: 21+4 = 25 means that 21 acres are Group Selection and 4 acres are Seed Tree Removal silviculture and when combined the total unit area equals 25 acres.

### Key:

Yarding Method: (T = Tractor, C = Cable)

Silviculture:

(GSL = Group Selection, CC = Clear Cut, TR = Transition, STR = Shelterwood Removal, SWR = Shelterwood Removal)

Yarding Acres = Approximate acres within the unit by yarding method

Silviculture Acres = Approximate acres within the unit by silviculture method.

If Selection, Group Selection, Commercial Thinning, Sanitation Salvage or Alternative methods are selected the post-harvest stocking levels must be stated. If Site class varies then state the post-harvest stocking standard to be met by each applicable Site Class.

NOTE: Location of boundaries of timber-site classes needed for the determination of stocking standards to be applied, down to 20-acres minimum or as specified in district rules shall be mapped per 14 CCR § 1034(x)(12)

### b. POST-HARVEST STOCKING TO BE MET AT THE COMPLETION OF OPERATIONS

Silvicultural Prescription	Site Class (I, II, III, IV, V)	Post-harvest stocking standard
Clear Cut	II and III	<p>For Clear-cut areas, the stocking standard to be met is 14 CCR 912.7(b)(1) as follows: "An area contains an average point count of two hundred (200) per acre on Site I and II lands, one hundred twenty-five (125) on Site III lands, or one hundred (100) on site IV and V lands. The point count to be computed as follows:</p> <p>(A) Each countable tree [Ref. PRC § 4528(b)] which is not more than four (4) inches d.b.h. counts one (1) point.</p> <p>(B) Each countable tree over four (4) inches and not more than twelve (12) inches d.b.h. counts two (2) points.</p> <p>(C) Each countable tree over twelve (12) inches d.b.h. counts as four (4) points.</p> <p>(D) Root crown sprouts will be counted using the average stump diameter twelve (12) inches above average ground level of the original stump from which the sprouts originate, counting one sprout for each foot of stump diameter to a maximum of six (6) per stump."</p> <p>This standard shall be met within 5 years of the completion of timber operations.</p>
Group Selection	II and III	<ul style="list-style-type: none"> <li>For Site II/III Group Selection areas the stocking standard to be met is 14 CCR 913.2(a)(2)(B); At least 80% of the stocked plots must meet the Basal Area stocking standards of 913.2(a)(2)(A) which states 'On Site II and III lands at least 75 square feet per acre of basal area shall be retained.' This standard shall be met immediately upon the completion of timber operations.</li> <li>Additionally:</li> <li>Per 14CCR 913.2(a)(2)(B)(2): Not more than 20% of the stocked plots may meet stocking standards utilizing the standards of 912.7(b)(1) with trees that are at least 10 (ten) years old.</li> <li>Per 14CCR 913.2(a)(3): Within any THP, small group clearings under the selection method shall be separated by a logical logging area.</li> </ul> <p>Per 14CCR 913.2(a)(4): Following completion of timber operations (including site preparation) not more than 20 percent of the THP area harvested by this method shall be covered by small group clearings.</p>

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Transition	II and III	For Site II/III Transition the minimum basal area standards in 14 CCR § 912.7(b)(2) shall be met. The post-harvest residual stand shall contain at least 15 square feet of basal area per acre of seed trees at least 18 inches dbh or greater. This standard shall be met immediately upon completion of timber operations.
Seed Tree Removal	II and III	For Site II/III Seed Tree Removal Areas the minimum point count stocking standards in 14 CCR § 912.7(b)(1) shall be met. <i>"An area contains an average point count of two hundred (200) per acre on Site I and II lands, one hundred twenty-five (125) on Site III lands, or one hundred (100) on site IV and V lands. The point count to be computed as follows:            (A) Each countable tree [Ref. PRC § 4528(b)] which is not more than four (4) inches d.b.h. counts one (1) point.            (B) Each countable tree over four (4) inches and not more than twelve (12) inches d.b.h. counts two (2) points.            (C) Each countable tree over twelve (12) inches d.b.h. counts as four (4) points.            (D) Root crown sprouts will be counted using the average stump diameter twelve (12) inches above average ground level of the original stump from which the sprouts originate, counting one sprout for each foot of stump diameter to a maximum of six (6) per stump."</i> This standard shall be met immediately upon completion of timber operations.
Shelterwood Removal	III	For Site II/III Seed Tree Removal Areas the minimum point count stocking standards in 14 CCR § 912.7(b)(1) shall be met as follows: <i>"An area contains an average point count of two hundred (200) per acre on Site I and II lands, one hundred twenty-five (125) on Site III lands, or one hundred (100) on site IV and V lands. The point count to be computed as follows:            (A) Each countable tree [Ref. PRC § 4528(b)] which is not more than four (4) inches d.b.h. counts one (1) point.            (B) Each countable tree over four (4) inches and not more than twelve (12) inches d.b.h. counts two (2) points.            (C) Each countable tree over twelve (12) inches d.b.h. counts as four (4) points.            (D) Root crown sprouts will be counted using the average stump diameter twelve (12) inches above average ground level of the original stump from which the sprouts originate, counting one sprout for each foot of stump diameter to a maximum of six (6) per stump."</i> This standard shall be met immediately upon completion of timber operations.

c. EVENAGED REGENERATION SIZE	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will even aged regeneration step Units be larger than those specified in the rules?</p> <p><input type="checkbox"/> 20 acres TRACTOR</p> <p><input type="checkbox"/> 30 acres AERIAL or CABLE</p> <p><b>If YES is the RPF proposing:</b></p> <p><input type="checkbox"/> An increase to even aged TRACTOR Units to 30 acres because Erosion Hazards Rating is Low and the slopes are less than 30%</p> <p><input type="checkbox"/> An increase to any even aged harvest unit up to 40 acres</p> <p><b>If YES provide substantial evidence that the THP contains measures to accomplish any one of the subsections per 14 CCR §913.1 [933.1, 953.1](a)(2)(A) – (E) In SECTION III</b></p> <p><b>Operational Instruction to the LTO, needed to meet subsections (A) – (E) above shall be included in SECTION II</b></p> <p><b>NOTE: Oversized Units should be designated on the THP map(s) by size.</b></p>

#### Operational instructions to the LTO:

- For Seed Tree Removal, Shelterwood Removal, Group Selection and Transition areas harvest conifers are marked with a horizontal blue stripe and a base mark below stump level.
- Within any Class I or II WLPZ, trees are marked with a horizontal blue stripe with a corresponding base mark below stump level may be harvested. Unmarked trees may be harvested within such areas for safety purposes or cable

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clearance. This exception is provided for in the THP (Reviewers, See Section III, Item 27(j)). No more than 3 trees within a 200 linear feet of WLPZ may be harvested under this exception. Compliance with all other applicable Forest Practice Rules is still required. The slash cleanout requirements of 14 CCR 916.3(b) are still in effect.

- Within areas where harvest trees are designated for harvest, trees within the Class III channel zone are not marked for harvest.
- Within areas where harvest trees are not marked for harvest (clear-cut unit), trees within the Class III channel zone and additional trees to be retained in the Class III ELZ are marked for retention with orange paint.
- Within ELZ's for wet areas where harvest trees are designated for harvest, harvest trees are marked with a horizontal blue stripe and a stump mark.
- Right-of-way clearing for logging road construction: On slopes 30% or less fall right-of-way timber 15 feet either side of the flagged centerline. On slopes over 30%, but less than 50% fall right-of-way timber 25 feet either side of centerline. white flagging.
- Any tree  $\geq 12$  inches dbh with more than 25% of its roots exposed by logging road construction activities SHALL be felled.
- Clear-cut units. Retain thrifty<sub>1</sub> conifers  $< 12''$  DBH unless substantially damaged by timber operations.  
<sub>1</sub> (Thrifty for this purpose means substantially free of defect or damage and having a crown ratio of  $> 30$  percent)

#### d. TIMBER MARKING

In the table below indicate the area requiring tree marking, the method of marking, who completed the marking and if it was an entire or sample area mark.

Marking completed in (specify Location(s))	Trees Marked (Harvest / Retained)	Completed By (RPF / Designee)	Area Marked (Entire / Sample area)	RPF Explanation if needed (Optional)
Unit A	Harvest	RPF and Designee	Sample	Transition and Seed Tree Removal
Unit B	Harvest	RPF and Designee	Sample	Group Selection and Clear cut
Unit C	Harvest	RPF and Designee	Sample	Group Selection and Clear cut
Unit D	Harvest	RPF and Designee	Sample	Group Selection Transition Shelterwood Removal and Seed Tree Removal
Unit E	Harvest	RPF and Designee	Entire	Group Selection

<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the RPF requesting a waiver of required marking?
	<p><b>If YES, provide directions explaining how the LTO will determine what trees shall be harvested or retained:</b></p> <p>For clear cut areas: Harvest merchantable conifers <math>\geq 12</math> inches DBH which are not otherwise marked for retention. Harvest merchantable conifers <math>&lt; 12</math> inches DBH which are not thrifty<sub>1</sub>. Leave any conifer or hardwood marked for retention with orange paint, or any standing cull. Merchantable trees damaged or growing on flagged tractor roads or in cable corridors may be cut regardless of diameter if they will be damaged or destroyed in the skidding/yarding process.  <small><sub>1</sub> (Thrifty for this purpose means substantially free of defect or damage and having a crown ratio of <math>&gt; 30</math> percent)</small></p>
	<p><b>If more than one silvicultural method or group selection is used, provide instructions to the LTO identifying how boundaries of the different methods or groups have been identified:</b></p> <p>Silvicultural method boundaries are designated with lime-glo "SILVICULTURE BOUNDARY" flagging with the following exceptions:</p> <ul style="list-style-type: none"> <li>• Silvicultural boundaries located on a WLPZ boundary are designated with blue/white stripe</li> </ul>



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	<p>“LAKE AND WATERCOURSE PROTECTION ZONE” flagging hung with solid red flagging.</p> <ul style="list-style-type: none"> <li>• Silvicultural boundaries located on easily recognizable mapped features such as roads, watercourses, or vegetation type boundaries (e.g. adjacent to previously clear-cut areas) may not be flagged.</li> <li>• Where the silvicultural boundary corresponds with an equipment boundary the equipment boundary may also serve as the silviculture boundary and is flagged with yellow/black-striped flagging.</li> </ul>
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#### e. FOREST PRODUCTS TO BE HARVESTED:

<input checked="" type="checkbox"/>	Saw Logs	<input checked="" type="checkbox"/>	Poles	<input type="checkbox"/>	Clean Chips
<input checked="" type="checkbox"/>	Peeler Logs	<input checked="" type="checkbox"/>	Split Wood Products	<input checked="" type="checkbox"/>	Firewood
<input checked="" type="checkbox"/>	Fuel Wood	<input type="checkbox"/>	Fuel chips	<input type="checkbox"/>	Other
<input checked="" type="checkbox"/>	Burl Wood				

#### f. GROUP B SPECIES MANAGEMENT

1. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are group B species proposed for management?
2. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are group B or non-indigenous A species to be used to meet stocking standards?
3. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will group B species need to be reduced to maintain relative site occupancy of group A species?
If any answer is YES, list the species, describe treatment, and provide LTO felling and slash treatment guidance. See table below	

#### TABLE FOR LTO TREATMENT GROUP B SPECIES MANAGEMENT

Species	Treatment Method	Felling Instruction	Slash Treatment Instructions
Tanoak	In order to maintain relative site occupancy the Plan Submitter will harvest or otherwise induce mortality to reduce tanoak basal area by 85% in clear cut units. Within Group Selection Seed Tree Removal, Shelterwood Removal and transition silviculture areas located outside WLPZs the Plan Submitter will harvest or otherwise induce mortality to reduce tanoak basal area by 35%+.		Avoid herbicide application within 100 feet of public roads. (fire protection zones)

#### HARDWOOD RETENTION:

Retain all true oaks (*Quercus* spp.) and all hardwoods with a 24-inch or greater DBH unless located in road right-of-way or safety considerations dictate that a tree needs to be cut.

1. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Are follow-up treatments expected to maintain relative site occupancy of group A species?</p> <p><input type="checkbox"/> Manual Treatments</p> <p style="padding-left: 20px;">- Describe:</p> <p><input type="checkbox"/> Herbicide Treatments</p> <p style="padding-left: 20px;">- Describe:</p> <p><input type="checkbox"/> Both</p>
	If YES who will be responsible?
2. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will a Licensed Pest Control Advisor be involved in the process?</p> <p>If YES explain when an advisor will be needed:</p> <p>If herbicides are applied the Plan Submitter will contract with Licensed Pest Control Advisors for those services.</p>

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g.

### LTO FELLING INSTRUCTIONS PLAN AREA

- a. Nothing contained in this THP shall be construed as a requirement to work in an unsafe manner.
- b. All applicable rules and regulations apply.
- c. Retain all snags except those that pose a safety hazard.
- d. Conserve existing conifer regeneration to extent possible.

☞ **Trees Substantially Damaged by Logging Operations:** These trees may be harvested during the course of timber operations if they meet the following criteria. These are defined as: top knocked out of redwood to a 6 inches or larger top diameter, top knocked out of other conifer species to a 3 inches or larger top diameter, bole skinned up to 1/2 or more of the circumference of a redwood, bole skinned up to 1/3 or more of the circumference of other conifer species. An "X" shall be sawn into the stump of any conifer harvested due to its being substantially damaged during logging operations. Exceptions to this allowance are as follows:

- Trees substantially damaged within a WLPZ shall be left standing.
- Trees specifically designated for retention with paint, which are substantially damaged, shall be retained.

☞ In areas where harvest trees are designated with blue paint as described above in Item #14(d), leave all unmarked trees except as otherwise allowed for in this plan.

☞ Leave any tree marked "No", and/or marked with yellow or orange paint, and/or tagged with yellow "wildlife tree" tags.

☞ Outside of WLPZs pre-cut cable corridors are limited to 10 feet total width, with the understanding that some portions of cable corridors may exceed this width due to marked timber. See requirements above regarding trading of unmarked trees.

☞ Per 14CCR 914.1(a): To the fullest extent possible and with due consideration given to topography, lean of trees, landings, local obstructions, and safety factors, trees shall be felled to lead in a direction away from all watercourses and lakes. This is especially important within any WLPZ, SOZ, ZOC, or any ELZ designated for watercourse or lake protection. Refer to Item 27(c) to see if an in-lieu practice is proposed for this item.

☞ Per 14CCR 914.1(b): Desirable residual trees and tree seedlings of commercial species shall not be damaged or destroyed by felling operations, except where unavoidable due to safety factors, lean of trees, location of obstructions or roads, or lack of sufficient openings to accommodate felled trees. This is especially important within any WLPZ, SOZ, ZOC, or any ELZ designated for watercourse or lake protection.

☞ Per 14CCR 914.1(c): "Trees shall be felled in conformance with watercourse and lake protection measures incorporated in timber harvesting plans and consistent with Article 6 of these rules".

☞ Per 14CCR 914.1(d): "Felling practices shall conform to requirements of 14 CCR 914.4 to protect bird nesting sites".

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h.	REGENERATION
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will artificial regeneration be required to meet stocking standards?</p> <p>Planting may be necessary in Clear cut units. The GRT Silviculturist will evaluate each unit post harvest to determine if artificial regeneration is required to meet stocking standards.</p>

i.	SITE PREPARATION									
<b>Definition of site preparation per 14 CCR §895.1: Site preparation means “any activity” involving mechanical disturbance of soils or burning of vegetation which is performed during or after completion of timber harvesting and is associated with preparation of any portion of a logging area for artificial or natural regeneration.</b>										
<b>1</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will site preparation be used within the logging area?</p> <p>If YES, provide site preparation plan per 14 CCR § 915.4 [935.4, 955.4]</p>									
<b>2</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will site preparation be required to meet stocking?</p>									
<p>• General method(s) of site preparation:</p> <p>Site preparation may be necessary to facilitate planting the clear cut units. Site preparation activities shall be designed to minimize soil disturbance and minimize soil movement. The table below lists those units where site preparation is proposed and the type of site preparation proposed. Where YUM is proposed it shall take place concurrently with yarding of the unit.</p> <table border="1" data-bbox="451 932 1481 1050"> <caption>Table 2 – General Methods of Site Preparation by Unit</caption> <thead> <tr> <th>Unit</th><th>Site Preparation Method</th><th>Yarding Method</th></tr> </thead> <tbody> <tr> <td>B</td><td>YUM/PB</td><td>C/T</td></tr> <tr> <td>C</td><td>YUM</td><td>C</td></tr> </tbody> </table> <p>Key: YUM = Yard Unmerchantable Material C = Cable Yarding PB = Pile and Burn T = Tractor Yarding</p> <p>NOTES on implementation of various site preparation methods:</p> <ul style="list-style-type: none"> <li>Where Pile and Burning alone is proposed heavy equipment is limited to existing trails utilized in yarding operations. Piles generated under this method shall not be piled against desirable residual vegetation. Piles generated under this method shall have a minimum 10 foot bare mineral soil firebreak.</li> <li>For YUM, any hardwood &gt; 8 inches on the butt that is knocked down or cut to facilitate harvesting, and is within 25 feet of a cable corridor centerline or tractor road, shall be yarded to the landing or tractor road, with the exception that the tree stem, up to the first limb/branch that is &gt;=1 inch in diameter, may remain within the unit (i.e. only the tree top need be yarded).</li> </ul> <p>• Type of equipment to be used for mechanical site preparation and/or firebreak construction:</p> <p>The types of equipment to be used for mechanical site preparation or fire break construction in this THP include:</p> <p>Track equipped excavator with thumb (PB). Track equipped heel boom loader (PB). Cable Yarder, various makes and/or models (YUM)</p> <p>• Methods to protect desirable residual trees per 14 CCR § 917.7:</p> <p>Desirable residual trees are marked for retention as per Item 14. Residual trees are to be protected by not falling those trees, except as noted in Item 14, and by minimizing damage by yarder or tractor operations. Burn piles generated under this method shall not be stacked against desirable residual vegetation.</p>		Unit	Site Preparation Method	Yarding Method	B	YUM/PB	C/T	C	YUM	C
Unit	Site Preparation Method	Yarding Method								
B	YUM/PB	C/T								
C	YUM	C								

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<b>3.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<ul style="list-style-type: none"> <li>Are there any exceptions or alternatives proposed to the standard rules? If YES, provide an explanation and justification for the proposed exceptions:</li> </ul>
	<ul style="list-style-type: none"> <li>Provide a map identifying the boundaries of site preparation areas, if different from the logging area boundaries, and distinguish areas by type of site preparation activity.</li> </ul> <p><b>Refer to the THP Map for the location of the units discussed in the above Table 2 in b above.</b></p>
	<ul style="list-style-type: none"> <li>Prior to conducting site preparation activities provide the name of the person responsible for site preparation:</li> </ul>
	Name: <b>Forest Manager c/o Gualala Redwood Timber, LLC</b>
	Address: <b>P. O. Box 197, Gualala CA 95445</b>
	Phone #: <b>707-884-4245</b>
	<p><b>Should the GRT Forest Manager determine that site preparation activities are necessary the responsibility for the implementation of the activity shall rest with the LTO responsible for the unit unless otherwise specified in an amendment.</b></p>
	<ul style="list-style-type: none"> <li>Estimated timing of site preparation activities:  <b>YUM in cable areas shall occur concurrently with yarding of the unit. Tractor areas where YUM is specified shall be evaluated by the GRT Forest Manager during/following harvesting of the unit. Should the GRT Forest Manager determine that YUM is necessary YUM shall occur soon thereafter, but prior to the winter period. Pile and Burn shall occur following yarding of the unit, outside of the winter period (burning is allowed in the winter). Tractor firebreak construction will occur prior to ignition, outside of the winter period during or immediately following yarding of the unit. Hand firebreak construction shall occur prior to ignition, and may take place any time of year.</b> </li> </ul>

<b>j. REGENERATION PLAN (rehabilitation of under stocked areas or variable retention)</b>	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Is a regeneration plan needed per 14 CCR §913.4 [933.4, 953.4](b) or (d)? If YES, please provide a detailed description for Review Team to evaluate how the proposed management prescription will aid in restoring and enhancing the productivity of commercial timberland.</p> <p>The regeneration plan shall include but not be limited to:</p> <ul style="list-style-type: none"> <li>- <u>Rehabilitation of under stocked areas</u>: site preparation, method of regeneration and other information needed to evaluate the proposal by the Review team:</li> <li>- <u>Variable Retention</u>: Trees and elements retained, objectives intended to achieved by retention, distribution and quantity of retained tress, intended time period of retention, and potential future conditions or events the RPF believes would allow harvest of retained trees.</li> </ul>

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<b>3.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<ul style="list-style-type: none"> <li>Are there any exceptions or alternatives proposed to the standard rules? If YES, provide an explanation and justification for the proposed exceptions:</li> </ul>
	<ul style="list-style-type: none"> <li>Provide a map identifying the boundaries of site preparation areas, if different from the logging area boundaries, and distinguish areas by type of site preparation activity.</li> </ul> <p><b>Refer to the THP Map for the location of the units discussed in the above Table 2 in b above.</b></p>
	<ul style="list-style-type: none"> <li>Prior to conducting site preparation activities provide the name of the person responsible for site preparation:</li> </ul>
	Name: <b>Forest Manager c/o Gualala Redwood Timber, LLC</b>
	Address: <b>P. O. Box 197, Gualala CA 95445</b>
	Phone #: <b>707-884-4245</b>
	<b>Should the GRT Forest Manager determine that site preparation activities are necessary the responsibility for the implementation of the activity shall rest with the LTO responsible for the unit unless otherwise specified in an amendment.</b>
	<ul style="list-style-type: none"> <li>Estimated timing of site preparation activities: <b>YUM in cable areas shall occur concurrently with yarding of the unit. Tractor areas where YUM is specified shall be evaluated by the GRT Forest Manager during/following harvesting of the unit. Should the GRT Forest Manager determine that YUM is necessary YUM shall occur soon thereafter, but prior to the winter period. Pile and Burn shall occur following yarding of the unit, outside of the winter period (burning is allowed in the winter). Tractor firebreak construction will occur prior to ignition, outside of the winter period during or immediately following yarding of the unit. Hand firebreak construction shall occur prior to ignition, and may take place any time of year.</b></li> </ul>

j. REGENERATION PLAN (rehabilitation of under stocked areas or variable retention)	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Is a regeneration plan needed per 14 CCR §913.4 [933.4, 953.4](b) or (d)? If YES, please provide a detailed description for Review Team to evaluate how the proposed management prescription will aid in restoring and enhancing the productivity of commercial timberland.</p> <p>The regeneration plan shall include but not be limited to:</p> <ul style="list-style-type: none"> <li>- <u>Rehabilitation of under stocked areas</u>: site preparation, method of regeneration and other information needed to evaluate the proposal by the Review team:</li> <li>- <u>Variable Retention</u>: Trees and elements retained, objectives intended to achieved by retention, distribution and quantity of retained tress, intended time period of retention, and potential future conditions or events the RPF believes would allow harvest of retained trees.</li> </ul>

# CalTREESTHP ITEMS #15-17 – PEST / HARVEST PRACTICES / EROSION HAZARD RATING

## ITEM #15 – PESTS

PESTS / FOREST DISEASES	
Timber operations shall be conducted so as to minimize the build-up of destructive insect populations or the spread of forest Diseases. 14 CCR 917.9 [937.9, 957.9](a) – (c) (All Districts)	
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Is this THP within an area that the Board of Forestry and Fire Protection has declared a Zone of:</p> <p>1. <input checked="" type="checkbox"/> Infestation</p> <p>2. <input checked="" type="checkbox"/> Infection</p> <p>pursuant to PRC §§ 4712 - 4718?</p> <p>If YES, identify feasible measures being taken to mitigate adverse infestation or infection impacts from the timber operation. 917.9 (937.9, 957.9)(a)</p> <p>Reference Board of Forestry Technical Rule Addendum Number 3 for RPF considerations.</p>
Measures to mitigate adverse infestations or infections:	
<p><b><u>PINE PITCH CANKER</u></b></p> <p>Pine Pitch Canker: This THP is within the broader zone of infection of the Coastal Pine Pitch Canker. Pine Pitch Canker has been found in southern Mendocino County in bishop pine and Monterey pine. Other primary hosts include knob cone pine. To date there has been only one reported case in Douglas-fir, a planted ornamental, and infections to sugar pine only in laboratory conditions. The harvest trees planned for removal are redwood and Douglas fir. The only pine trees known to be present in the harvest area are sugar pines. If any species susceptible to Pine Pitch Canker are inadvertently cut the following measures will be taken:</p> <ul style="list-style-type: none"> <li>• Pitch Canker infected pines or beetle infested pines will not be shipped outside of the Zone of Infestation,</li> <li>• If pine logs are not infected with Pine Pitch Canker, they shall be shipped outside the Zone of Infestation within four days if during the period of February 1 through June 30,</li> <li>• If pine logs are not infected with Pine Pitch Canker during the period of July 1 through January 31, they shall be shipped outside the Zone of Infestation within seven days.</li> </ul> <p>Zone of infestation for Pine Pitch Canker- All of the area within the counties of Alameda, Contra Costa, Los Angeles, Marin, Monterey, Mendocino, Napa, Orange, San Benito, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma, and Ventura; and the portion of San Bernardino, Riverside and San Diego Counties which is westerly of the line beginning at the San Bernardino I Los Angeles County line and proceeding easterly along State Route (SR) 138 to Interstate Highway (1) 15; thence southerly along 1-1 5 to 1-215; thence southerly along 1-215 to 1-15; thence southerly along 1-15 to SR-79; then southerly along SR-79 to 1-8; thence easterly along 1-8 to the San Diego I Imperial County line; thence southerly along the San Diego I Imperial County line to the U.S. I Mexico border.</p> <p>Pine Slash shall be lopped and scattered concurrent with timber operations. Timing and specifications for lopping are taken from 14 CCR 917.9 and Technical Rule Addendum #3 (B)(2): The following treatment is acceptable, provided it is completed as soon after brood material creation as is practical, but not later than one week.</p> <ul style="list-style-type: none"> <li>○ Lop all branches from the tops and sides of main stems which are more than 3 inches in diameter.</li> <li>○ Lopped stems may also be cut into short segments to reduce drying time and further reduce hazard.</li> <li>○ Branches shall be scattered so that stems have maximum exposure to solar radiation.</li> <li>○ Do not pile brood material.</li> </ul>	

### SUDDEN OAK DEATH

This timber harvesting plan is located within the declared Zone of Infestation for Sudden Oak Death. Recently, on this property, occurrences of this disease are suspected. These occurrences have not been confirmed by lab tests. At this time, there are no known sites of infestation within ¼ mile of the THP area.

#### Background:

Sudden Oak Death is a forest disease caused by the fungus like **pathogen** *Phytophthora ramorum*. This pathogen has caused widespread dieback of tanoak and several oak species in the central and northern coastal counties of California, and has to date been associated with more than 26 different plant species.

Some of these species including live oak, black oak, Shreve oak and tanoak sustain lethal trunk infections. Other plants get more benign foliar and twig infections.

Many of the species with foliar infections play a key role in spread of *P. ramorum* by acting as a reservoir of inoculum, which may then be spread aerially via windblown rain. Sporangia and chlamydospores are the most likely propagules of dispersion. Sporangia and chlamydospores are commonly generated on foliage, whereas they have not as yet been found on infested oak bark. The two plants determined to be the greatest sinks for inoculum are California bay laurel and Rhododendron spp.

Mortality is most common where oaks and these foliar hosts are found growing together. Depending on the plant species, infection may occur on the trunk, branches, and or leaves. Infections on woody portions of the tree are referred to as cankers. Cankers on the trunk of oak trees are the most damaging. Tree death appears to occur when cankers expand in the trunk (girdling) and disrupting physiological function.

Diseased oaks are often attacked by other pathogenic organisms such as fungi that decay sapwood (*Hypoxylon thouresianum*) and bark beetles. In the shrub species the symptoms can range from leaf spot to twig girdling, and do not necessarily result in death of the plant.

To date, *P. ramorum* has not been found to infect the main trunk of Douglas-fir or coast redwood. Coast redwood symptoms include discoloration of needles and development of cankers on small branches throughout the crown of small saplings. The fungus can also cause mortality of basal shoots on mature redwood trees. Only a few occurrences (i.e. less than 10 sites) on redwood have been confirmed. Cankers on small branches of Douglas-fir saplings cause wilting of new shoots, needle loss, and branch die-back. In smaller saplings, death of the leader and top branch whorls can occur. SOD in Douglas-fir has been confirmed at only one site in Sonoma County having high levels of inoculum from the infected bay leaves in the nearby overstory.

#### **In response to concern over the spread of SOD, the following shall apply:**

- a) At this time, SOD infected counties include: 1) Alameda 2) Contra Costa 3) Humboldt 4) Lake 5) Marin 6) Mendocino 7) Monterey 8) Napa 9) San Francisco 10) San Mateo 11) Santa Clara 12) Santa Cruz 13) Solano 14) Sonoma 15) Trinity. This area is considered the Zone of Infestation for Sudden Oak Death.

- b) There are both "Regulated Host Species" and "Associated Species".

Regulated *Phytophthora ramorum* Hosts of Concern when Filing Timber Harvest Documents are as follows:

<u>Scientific Name</u>	<u>Common Name</u>
<i>Acer macrophyllum</i>	Bigleaf maple
<i>Adiantum aleuticum</i>	Western maidenhair fern
<i>Adiantum jordanii</i>	California maidenhair fern
<i>Aesculus californica</i>	California buckeye
<i>Arbutus menziesii</i>	Madrone
<i>Arctostaphylos manzanita</i>	Manzanita
<i>Frangula californica</i> (= <i>Rhamnus californica</i> )	California coffeeberry
<i>Frangula purshiana</i> (= <i>Rhamnus purshiana</i> )	Cascara
<i>Heteromeles arbutifolia</i>	Toyon
<i>Lithocarpus densiflorus</i>	Tanoak
<i>Lonicera hispidula</i>	California honeysuckle
<i>Maianthemum racemosum</i> = ( <i>Smilacina racemosa</i> )	False Solomon's seal
<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	Douglas-fir
<i>Quercus agrifolia</i>	Coast live oak
<i>Quercus chrysolepis</i>	Canyon live oak
<i>Quercus kelloggii</i>	California black oak
<i>Quercus parvula</i> var. <i>shrevei</i>	Shreve's oak
<i>Rhododendron</i> spp.	Rhododendron (including azalea)
<i>Rosa gymnocarpa</i>	Wood rose
<i>Sequoia sempervirens</i>	Coast redwood
<i>Trientalis latifolia</i>	Western starflower
<i>Umbellularia californica</i>	California bay laurel/pepperwood
<i>Vaccinium ovatum</i>	Evergreen huckleberry

**CalTREESTHP ITEMS #15-17 – PEST / HARVEST PRACTICES / EROSION HAZARD RATING**

Of these species the following are known to occur in the THP area: madrone, manzanita, tanoak, honeysuckle, Douglas-fir, coast redwood, western starflower (*Trientalis latifolia*), California bay laurel, huckleberry and wood rose.

- c) Host material permitted for removal:
  - Firewood may be harvested from the THP area, so long as such wood is not smaller than four inches in diameter and does not leave the existing Zone of Infestation.
  - The only *host material* that may be harvested for commercial purposes are tanoak/madrone logs and redwood basal burls. They may be harvested and shipped to destinations within the existing Zone of Infestation, subject to the requirements of the Compliance Agreement. If debarked, they may be harvested and shipped to any destination without restriction.
- d) Host material shall not be moved outside of the existing Zone of Infestation.
- e) This THP shall serve as the Compliance Agreement for removal of commercial host material from the THP area, within the Zone of Infestation.
- f) Information regarding Compliance:
  - (1) The potential destination(s) of commercial host material is unknown at this time. Prior to removal of the above noted commercial host materials from the THP area, the plan shall be amended to clarify the specific destination for these materials.
  - (2) Basal trunk/burl sprouts, small branches (less than 1 inch in diameter), and leaves (needles) of coast redwood and Douglas-fir are considered host materials. These host materials shall not be removed from the THP area except as provided for above in c.
  - (3) Chips or other host material, less than 4 inches in diameter, shall not be removed from the THP area.
  - (4) Movement of host material greater than 4 inches in diameter (as described in (c), above) does not require a closed container.
  - (5) Host debris (not actual logs - just leaves, twigs, and branches of host species, listed in item (b), above) shall be inspected for, and substantially removed from, equipment/vehicles prior to departure from the plan area. The usual inspection shall consist of walking around each vehicle/piece of heavy equipment, including any load, and visually scanning for the presence of host debris, prior to movement from the THP area. This is the responsibility of the LTO responsible for hauling operations.
- g) The RPF responsible for providing professional advice to the licensed timber operator pursuant to 14 CCR 1035.1(e), shall inform the LTO regarding regulations pertaining to SOD, current SOD hosts, extent of the regulated area, and operational requirements pertaining to the Compliance Agreement (this THP), prior to start-up of initial timber operations and throughout active timber operations as necessary regarding plan amendments to such. An amendment will be submitted if SOD information or mitigation measures change prior to any timber operations.

b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any other significant insect or forest disease problems within the THP area if outside a declared zone? 1. <input type="checkbox"/> Insect(s) 2. <input type="checkbox"/> Disease(s) 3. <input type="checkbox"/> Pest problems 4. <input type="checkbox"/> Other (provide description of the forest problem)  If YES, describe proposed measures to improve the health, vigor, and productivity of the stand(s).
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Proposed measures:

N/A



# CalTREESTHP ITEMS #15-17 – PEST / HARVEST PRACTICES / EROSION HAZARD RATING

## ITEM #16 – HARVESTING PRACTICES

YARDING SYSTEM AND EQUIPMENT TO BE USED					
	GROUND BASED (Tractor, skidder, Forwarder)		CABLE		OTHER (Special)
<input checked="" type="checkbox"/>	Tractor, including end/long lining	<input type="checkbox"/>	Cable, ground lead	<input type="checkbox"/>	Helicopter
<input checked="" type="checkbox"/>	Rubber tire skidder, forwarder	<input type="checkbox"/>	Cable, High lead	<input type="checkbox"/>	Animal
<input checked="" type="checkbox"/>	Feller buncher	<input checked="" type="checkbox"/>	Cable, skyline	<input type="checkbox"/>	Other (describe below)
<input checked="" type="checkbox"/>	Shovel yarding				

\*\* All Tractor operations restrictions apply to ground based equipment Reference 14 CCR 914.2 [934.2, 954.2] (All Districts)

### General Tractor and Cable yarding guidelines:

Yarding method boundaries are flagged with yellow/black striped flagging except that boundaries located on easily recognizable mapped features such as roads and watercourses may not be flagged. Silviculture boundaries may also serve as yarding method boundaries, and are flagged with lime-glo "SILVICULTURE BOUNDARY" flagging.

The LTO may cable yard any area designated as tractor so long as cable yarding the area will result in less ground and residual stand disturbance.

A few tailholds and portions of cable roads may be located outside of the THP boundaries. These areas shall be considered a part of the plan but are not included in the acreage totals and are not mapped because their specific locations are the responsibility of the LTO. Forest practice rules applicable to the THP area apply to the areas in the vicinity of any tailhold and associated cable corridor located outside of the mapped THP boundaries. Cable roads outside of mapped THP boundaries and within WLPZs shall be the minimum required for safe cable yarding. Unless specifically noted under THP Item 2 (Timberland Owner) all tailholds shall be located on this ownership.

Unmarked trees may be harvested within such areas for safety purposes or cable clearance. This exception is provided for in the THP (Reviewers, See Section III, Item 27(j)). No more than 3 trees within a 200 linear feet of WLPZ may be harvested under this exception. Compliance with all other applicable Forest Practice Rules is still required.

The slash cleanout requirements of 14 CCR 916.3(b) are still in effect.

No cable corridors shall be situated so as to result in logs being yarded directly up or down Class III watercourse channels.

- Tractors shall not operate where saturated soil conditions exist.
- Equipment Limitation Zones (ELZs) apply to Wet Areas and Class III watercourses. The widths of these ELZs are described in Items 26 and 27. These ELZs are flagged for Wet Areas, but ARE NOT flagged for Class III watercourses. It is the responsibility of the LTO to observe the correct distances whether they are flagged or not. The limitations placed on equipment within these ELZs are:
  - ❖ At locations other than prepared logging road crossings, heavy equipment may only enter into the ELZ at locations pre-flagged by the RPF or a supervised designee prior to the PHI. In these cases the use is usually associated with an existing tractor road to be used for skidding or access to remediation sites.
  - ❖ At prepared Logging Road crossings of Class III watercourses heavy equipment may enter into the Class III ELZs for the purpose of log hauling, equipment transport, administrative access, personnel transport, and other associated activities.

# CalTREESTHP ITEMS #15-17 – PEST / HARVEST PRACTICES / EROSION HAZARD RATING

## **ITEM #17 – EROSION HAZARD RATING**

EROSION HAZARD RATING (EHR)					
		Per 14 CCR 914.6 [934.6, 954.6](c) Waterbreaks Road and/or Trail Gradients Waterbreak Spacing by trail/road gradient			
		10 or less	11-25	26-50	>50
<input type="checkbox"/>	LOW	300	200	150	100
<input checked="" type="checkbox"/>	MODERATE	200	150	100	75
<input checked="" type="checkbox"/>	HIGH	150	100	75	50
<input type="checkbox"/>	EXTREME	100	75	50	50
<b>NOTE:</b> <ul style="list-style-type: none"> <li>• If more than one rating is checked, areas must be identified on a THP map down to 20 acres in size.</li> <li>• COASTAL DISTRICT with a High or extreme EHR(s) must be mapped to 10 acres.</li> <li>• If ratings checked do not match the EHR Worksheet clarify the discrepancy:</li> </ul>					
<b>EHR rating discrepancy: N/A</b>					

## CalTREES THP ITEM #18 – SOIL STABILIZATION

### ITEM #18 SOIL STABILIZATION / EROSION CONTROL

Per 14 CCR 923.5, 943.5, 963.5–Erosion Control for Logging Roads and Landings [All Districts] – All logging road and landing surfaces shall be adequately drained, through the use of logging road and landing surface shaping in combination with the installation of drainage structures or facilities and shall be hydrologically disconnected from watercourses and lakes to the extent feasible.

Per 14 CCR 914, 934, 954 – Harvesting practice and erosion control [All Districts] – Timber operations shall be conducted to: Meet the goal... to prevent degradation of the quality and beneficial uses of water and maintain site productivity by minimizing soil loss

Guidance on methods for hydrologic disconnection may be found in “Board of Forestry Technical Rule Addendum Number 5: Guidance on Hydrologic Disconnection, Road Drainage, Minimization of Diversion Potential, and High Risk Crossings” (1st Edition, revised 10/27/14)

14 CCR 923.5, 943.5, 963.5(b), (c), (d), (e), (f), (g), (h), (j), (k), (p) contain standard Forest Practice Operational rules pertaining to the timing and specifics for the installation of erosion control structures for Roads and Landings.

14 CCR 914.6, 934.6, 954.6(a) (1-2), (b), (c), (d), (e), (f), (g), additional Coast areas (h), (i) contain standard Forest Practice Operational rules pertaining to the timing and specifics for the installation of erosion control structures for harvesting practices, tractor and cable operations.

#### THE LTO SHALL BE FAMILIAR WITH THESE STANDARD OPERATIONAL REQUIREMENTS, PRIOR TO OPERATIONS.

a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Are there any exceptions proposed to the above listed standard operational requirements?  <b>If YES, please provide the specific operational instruction to the LTO.</b></p>
<div style="margin-bottom: 10px;"><input checked="" type="checkbox"/> STRAW Mulch            Depth (inches): <u>2</u>* Percent coverage: <u>90</u>            * at the time of application</div> <div style="margin-bottom: 10px;"><input checked="" type="checkbox"/> SLASH Mulch  <input checked="" type="checkbox"/> Scattered Depth (inches): <u>2</u> Percent coverage: <u>90</u>  <input checked="" type="checkbox"/> Packed Depth (inches): <u>4</u> Percent coverage <u>75</u></div> <div style="margin-bottom: 10px;"><input type="checkbox"/> Grass Seeding            LTO Instructions:</div> <div style="margin-bottom: 10px;"><input checked="" type="checkbox"/> Rock Armoring            Size: _____            Installation instructions:  <b>See Map Point Table for Rock Armor Sizing and Installation Specifications</b></div> <div style="margin-bottom: 10px;"><input type="checkbox"/> Replanting            LTO instructions if needed</div> <div style="margin-bottom: 10px;"><input type="checkbox"/> Installation of commercial erosion devices            Describe commercial devise and provide instructions to the LTO:</div> <div style="margin-bottom: 10px;"><input type="checkbox"/> Other            Describe method and provide LTO instructions:</div>	

Per 14 CCR 914.9 the RPF may develop on a site-specific basis alternative practices that will achieve environmental protection at least equal to the standards set forth in 914.1-914.8.

b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Are there any alternative practices to the standard harvesting or erosion control rules proposed?  <b><u>If YES, the information as required per 914.9 shall be provided in SECTION III. Provide instructions to the LTO in SECTION II.</u></b></p>
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# CaITREES THP ITEM #18 – SOIL STABILIZATION

All WATERSHEDS Logging roads / Landings	N/A	Description of Treatments	Protection Measures	Timing
c. 923.5[943.5, 963.5](i): treatments to prevent significant discharge where features cannot be hydrologically disconnected.	<input checked="" type="checkbox"/>	There are no roads, skid trails or landings which cannot be hydrologically disconnected.		
d. 923.5(l) & (m): treatments for sidecast or fill; cuts and fills associated w/ approaches to watercourse crossings; bare areas w/in WLPZ.		Soil stabilization is required for the following areas:  Bare soil on Logging Road or Landing cuts, fills, transported spoils, or sidecast that is created or exposed by Timber Operations shall be stabilized to the extent necessary to minimize soil erosion and sediment transport and to prevent significant sediment discharge.  Sites to be stabilized include, but are not limited to: (1) Sidecast or fill exceeding 20 feet in slope distance from the outside edge of a Logging Road or a Landing that has access to a Watercourse or lake. (2) Cut and fills associated with approaches to Logging Road Watercourse crossings of Class I or II waters or Class III waters where an ELZ, EEZ, or a WLPZ is required. (3) Bare areas exceeding 800 continuous square feet within a WLPZ. (m) Soil stabilization measures shall be described in the plan pursuant to 14 CCR § 923.5(l) [943.5(l),963.5(l)], and may include, but are not limited to, removal, armoring with rip-rap, replanting, mulching, seeding, installing commercial erosion control devices to manufacturer's specifications, or chemical stabilizers.	There should be no eventuality where sidecast extends 20 feet in slope distance anywhere on the plan. Should any of the conditions described to the left under "Description of Treatments" occur these areas will be mulched as follows:  Where straw or Slash mulch is used, the minimum straw coverage shall be 90 percent (2 inches deep at the time of application ) and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of Timber Operations.  Where slash mulch is packed into the ground surface through the use of a tractor or equivalent piece of heavy equipment the minimum Slash coverage shall be 75 percent (average depth of 4 inches or more).	For areas disturbed from May 1 to October 15, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface that could deliver sediment into a Watercourse or lake in quantities deleterious to the beneficial uses of water.  For areas disturbed from October 15 to May 1, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days, whichever is earlier.
e. 923.5(n): When the natural ability of ground cover in WLPZ is inadequate to filter sediment.	<input checked="" type="checkbox"/>	This condition is not associated with the project area.		
f. 923.5(o): Exceptions to soil stabilization treatment timing.	<input checked="" type="checkbox"/>	There are no exceptions to this regulation proposed.		

### CalTREES THP ITEM #18 – SOIL STABILIZATION

Watercourse crossings on logging roads				
g. 923.9(t)(1)-(3): Bare soil on fills, sidecast, timing of treatment.		Soil stabilization is required at logging road watercourse crossings where: Bare soil from fills or sidecast associated with Logging Road Watercourse crossings that are created or exposed by Timber Operations shall be stabilized to the extent necessary to minimize soil erosion and sediment transport and to prevent significant sediment discharge. Erosion control measures for the traveled surface of roads and landing surfaces are specified in 14 CCR §§ 923.5 and 923.7. Sites to be stabilized include, but are not limited to, sidecast or fill exceeding 20 feet in slope distance from the outside edge of the road surface at the Logging Road Watercourse crossing.	Where straw or Slash mulch is used, the minimum straw coverage shall be 90 percent (2 inches deep at the time of application ) and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of Timber Operations.  Where slash mulch is packed into the ground surface through the use of a tractor or equivalent piece of heavy equipment the minimum Slash coverage shall be 75 percent (average depth of 4 inches or more).	Soil stabilization treatments shall be in place upon completion of operations for the year of use or prior to the extended wet weather period, whichever comes first.  An exception is that bare areas created during the extended wet weather period shall be treated prior to the start of rain that generates overland flow, or within 10 days of the creation of the bare area(s), whichever is sooner.

Forest Practice Rules (FPR) require Specific Erosion Control / Soil Stabilization measures to be addressed within the proposed THP addressing. WLPZ & Protected ELZ & EEZs within a Non ASP and exempt ASP watersheds. Please address the following table and the specific rule. If not applicable, so state.

<u>Non ASP&amp; Exempt ASP watersheds</u> WLPZ & Protected ELZ & EEZ	N/A	Description of Treatments	Protection Measures	Timing
h. 916.7 Stabilization measures for WLPZ of CI & C II.	<input checked="" type="checkbox"/>	Within the Watercourse and lake protection zone adjacent to Class I and Class II waters, areas where mineral soil exceeding 800 continuous square feet in size, exposed by Timber Operations, shall be treated for reduction of soil loss.	Mulching will be employed to prevent significant movement of soil into Class I and II waters under these circumstances (bare soil creation >800 Sq.ft.)	Treatment shall be done prior to October 15th except that such bare areas created after October 15th shall be so treated within 10 days.
In addition to 916.7 see Table below for additional requirements associated with ASP watershed.				

## CalTREES THP ITEM #18 – SOIL STABILIZATION

Forest Practice Rules (FPR) require Specific Erosion Control / Soil Stabilization measures to be addressed within the proposed THP addressing WLPZ & Protected ELZ & EEZ, Roads and Landings and Watercourse Crossings, within an ASP Watershed or Immediately upstream of an ASP Watershed. Please address the following table and the specific rule. If not applicable, so state.

ASP WATERSHEDS Logging roads / Landings	N/A	Description of Treatments	Protection Measures	Timing
i. 916.9(n)(1)-(7): WLPZ, & protected ELZ & EEZs.		<p>Soil stabilization is required for the following areas:</p> <p>(A) Areas exceeding 100 contiguous square feet where Timber Operations have exposed bare soil.</p> <p>(B) Approaches to tractor road watercourse crossings between the drainage facilities closest to the crossing.</p> <p>(C) Any other area of disturbed soil that threatens to discharge sediment into waters in amounts that would result in a significant sediment discharge.</p> <p>(7) Where the natural ability of ground cover is inadequate to protect beneficial uses of water by minimizing soil erosion or by filtering sediment, the plan shall specify protection measures to retain and improve the natural ability of the ground cover to filter sediment and minimize soil erosion. <i>(The above cited condition (7) is not associated with the plan area.)</i></p>	<p>Within the Class 1 WLPZ, Class 2 WLPZ and Class III ELZ or EEZ should timber operations expose bare soil in areas exceeding 100 contiguous square feet soil stabilization will be accomplished by mulching.</p> <p>Any other area of disturbed soil that threatens to discharge sediment into waters in amounts that would result in a significant sediment discharge will also be mulched.</p> <p>No tractor road crossings are associated with this THP.</p> <p>Where straw or Slash mulch is used, the minimum straw coverage shall be 90 percent (2 inches deep at the time of application ) and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of Timber Operations.</p> <p>Where slash mulch is packed into the ground surface through the use of a tractor or equivalent piece of heavy equipment the minimum Slash coverage shall be 75 percent (average depth of 4 inches or more).</p>	<p>For areas disturbed from May 1 to October 15, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface that could deliver sediment into a Watercourse or lake in quantities deleterious to the beneficial uses of water.</p> <p>For areas disturbed from October 15 to May 1, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days, whichever is earlier.</p>

# CalTREES THP ITEM #18 – SOIL STABILIZATION

<p>j. 923.5(q)(3): as it pertains to roads, landings, etc.</p>		<p>Soil stabilization is required for the following areas:</p> <ol style="list-style-type: none"> <li>1. Areas exceeding 100 continuous square feet where Timber Operations have exposed bare soil</li> <li>2. Disturbed Logging Road and Landing cut banks and fills, and</li> <li>3. Any other area of disturbed soil that threatens to cause significant sediment discharge.</li> </ol> <p>(F) Where the natural ability of ground cover is inadequate to protect the beneficial uses of water by minimizing soil erosion or by filtering sediments within any ELZ or EEZ designated for Watercourse or lake protection, the plan shall specify protection measures to retain and improve the natural ability of the ground cover to filter sediment and minimize soil erosion. <u>(The above cited condition (F) is not associated with the plan area.)</u></p>	<p>Within the Class 1 WLPZ, Class 2 WLPZ and Class III ELZ, should timber operations expose bare soil in areas exceeding 100 contiguous square feet soil stabilization will be accomplished by mulching.</p> <p>Where straw or Slash mulch is used, the minimum straw coverage shall be 90 percent (2 inches deep at the time of application ) and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of Timber Operations.</p> <p>Where Slash mulch is applied, a minimum of 75% of the area shall be covered by slash in contact with the ground</p>	<p>For areas disturbed outside of the extended wet weather period, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface that could result in significant sediment discharge.</p> <p>For areas disturbed during the extended wet weather period, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days of disturbance, whichever is earlier.</p>
<p>k. 923.9(t)(4): as it pertains to watercourse crossings.</p>		<p>Treatments to stabilize soils, minimize soil erosion, and prevent significant sediment discharge within the WLPZ and within any ELZ or EEZ designated for Watercourse or lake protection shall be described in the plan as follows: In addition to the requirements of 14 CCR § 923.9(p)(1)-(3), soil stabilization is required for the following situations:</p> <ol style="list-style-type: none"> <li>1. Areas exceeding 100 continuous square feet where Timber Operations have exposed bare soil.</li> <li>2. Disturbed Logging Road Watercourse crossing cut banks and fills.</li> <li>3. Any other area of disturbed soil that threatens to cause significant sediment discharge.</li> </ol>	<p>Where straw mulch is used, the minimum straw coverage shall be 90 percent, and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of Timber Operations.</p> <p>Where Slash mulch is applied, Slash coverage in contact with the ground surface shall be a minimum of 75 percent.</p>	<p>For areas disturbed outside the extended wet weather period, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface that could result in significant sediment discharge.</p> <p>For areas disturbed during the extended wet weather period, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days of disturbance, whichever is earlier.</p>

## CaITREES THP ITEMS #19-22 – GROUND BASED EQUIPMENT

### ITEMS #19 – 22: GROUND BASED EQUIPMENT

GROUND BASED EQUIPMENT	
a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Per 14 CCR 895.1 a layout is a prepared bed in which a tree is felled, generally constructed by a tractor or other ground based equipment.</p> <p>Are tractor or skidder constructed layouts to be constructed?</p> <p>If YES, specify the location (consider mapping) and the extent of use. NOTE: winter operations and soil stabilization measures apply to tractor or skidder constructed layouts.</p>
<p>Per 14 CCR 914.3 [943.3, 954.3](e) Tractors shall not be used in areas designated for cable yarding except:</p> <ul style="list-style-type: none"> <li>To pull trees away from streams</li> <li>To yard logs in areas where deflection is low</li> <li>Where swing yarding is advantageous</li> <li>To construct firebreaks and/or layouts</li> <li>To provide tail-holds</li> </ul> <p>Such exception(s) shall be explained and justified in the THP, and require Director's approved</p>	
b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will ground based equipment be used within area(s) designated for cable yarding: (CHECK all that apply)</p>
<input type="checkbox"/>	Pulling trees away from watercourses
<input type="checkbox"/>	Yarding logs from areas with low deflection
<input type="checkbox"/>	Swing yarding
<input type="checkbox"/>	Construct fire breaks
<input type="checkbox"/>	Construct layouts
<input type="checkbox"/>	Providing tail-holds
<input checked="" type="checkbox"/>	<p>Other - Describe:</p> <ol style="list-style-type: none"> <li>1) Tractors are not to enter into cable areas but may be used to end-line logs from cable areas while setting on logging roads, or while setting in tractor areas adjacent to the cable areas. This practice reduces landing requirements, minimizes side hill yarding and overall disturbance based on my extensive observations over the past 40 years.</li> <li>2) Ground based equipment will enter the cable unit on an existing road / skid trail to correct a watercourse diversion at map point 26. Limit ingress/egress to the flagged route which is an old road segment shown on the THP Map. See map point 26 in the map point table for information concerning correcting the diversion.</li> </ol>
<p>If YES, specify the location (consider mapping) and provide LTO instructions</p>	
c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Are any exceptions proposed for ground based operations within cable areas outside of the exceptions listed above?</p> <p>If YES, provide the required explanation and justification in SECTION III of the THP and provide operations instructions for the LTO in SECTION II below.</p>
<p>Per 14 CCR §914.9 (a) Alternatives to Standard Rules:</p> <p>(a) Alternative practices may be developed by the RPF on a site-specific basis provided the following conditions are complied with and the alternative practices will achieve environmental protection at least equal to that which would result from using measures stated in 14 CCR §§ 914.1-914.8, 934.1-934.8, 954.1-954.8.</p> <ol style="list-style-type: none"> <li>(1) Environmental impacts with potential for significant adverse effects on the beneficial uses of water, on the residual timber, and on the soil productivity are identified and measures proposed to mitigate such impacts are included in an approved THP. The THP shall also contain a clear statement as to why alternative harvesting and erosion control measures are needed.</li> <li>(2) The alternative practice(s) must be explained in sufficient detail and standards provided in the THP so that they can be adequately evaluated and enforced by the Director and implemented by the licensed timber operator.</li> <li>(3) On a THP in which alternatives covering harvesting and erosion control measures have been incorporated, the timber operator shall agree to the alternative specifications by signing and filing with the Director a copy of the plan, the amended plan or a facsimile thereof, prior to beginning or continuing operations on the portion of the plan to which the alternatives apply.</li> </ol> <p>(b) <u>The Director shall not accept for inclusion in a THP alternative harvesting and erosion control measures proposed under this section which do not meet the standard of subsection (a) of this section. In the event that there is more than one written negative position showing that the alternative practice(s) does (do) not meet the standard of subsection (a) received from among the agencies listed in 14 CCR 1037.3 and the Department which participated in the review of the plan including on-the-ground inspection, the Director shall reject the proposed alternative.</u></p> <p>(c) Alternative practices stated in an approved THP shall have the same force and authority as those practices required by the standard rule.</p>	



## CalTREES THP ITEMS #19-22 – GROUND BASED EQUIPMENT

d. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Is the RPF proposing any Alternative Practices to the standard rule on a site-specific basis?</p> <p><u>If "YES" provide clear instruction to the LTO in Section II advising LTO how the Alternative is to be implemented to maintain equal protection of the standard rule. In Section III explain how the alternative practice proposed achieves environmental protection at least equal to that what which would result from using measures stated in 14 CCR §§ 914.1-914.8.</u></p>
<p>14 CCR 914.2 (a-k) Identifies the Forest Practice Rule requirements for the use of ground based equipment within the harvesting area.</p> <ul style="list-style-type: none"> <li>• (b) Tractor, or other heavy equipment equipped with a blade, SHALL NOT operate on skid roads or slopes that are so steep as to require the blade to be used for breaking.</li> <li>• (c) Tractor roads SHALL be limited in number and width to the minimum necessary for removal of logs. <ul style="list-style-type: none"> <li>- When less damage to the resources specified in 14 CCR 914[934, 945] will result, existing tractor roads shall be used instead of constructing new tractor roads.</li> <li>- [NORTHERN only] RPF may propose exceptions for silvicultural reasons when explained and justified within the plan.</li> </ul> </li> <li>• (e) Slash and debris from timber operations SHALL not be bunched adjacent to residual trees required for silvicultural or wildlife purposes, or placed in a location where they could discharge into a Class I or II watercourse, or Lake.</li> <li>• (g) where tractor roads are constructed only those roads shall be used for the skidding of logs to landings</li> <li>• (h) Desirable residual trees and seedlings will not be damaged or destroyed by tractor operations.</li> <li>• (i) where waterbreaks cannot effectively disperse surface runoff, other erosion controls shall be installed as needed.</li> <li>• Slope restriction are identified in subsection (d), (f) [Coastal, Northern], (j) [Southern]</li> </ul> <p style="text-align: center;"><b>The LTO shall be aware of these rule requirements prior to operations</b></p>	
e. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will new tractor roads be constructed?
f. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will tractor road use be limited to existing tractor roads?
<p>ASP NOTE: per 14 CCR 916.9 (k)(1) – Year-around tractor road limitations, Tractor roads shall not be used when operations may result in significant sediment discharge and (m) Tractor Road Drainage Facility Installation - All tractor roads shall have drainage and/or drainage collection and storage facilities installed as soon as practical following yarding and prior to either (1) the start of any rain which causes overland flow across or along the disturbed surface within a WLPZ or within any ELZ or EEZ designated for watercourse or lake protection, or (2) any day with a National Weather Service forecast of a chance of rain of 30 percent or more, a flash flood warning, or a flash flood watch.</p>	
Will ground based equipment be used on:	
g. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Unstable areas? (only allowed if unavoidable)</p> <p>If YES, the RPF SHALL develop specific measures to minimize the effect of operations on slope stability. Provide the required justification and explanation in SECTION III and operational instructions to the LTO in SECTION II.</p>
h. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Slopes steeper than 65%</p> <p>if YES, provide site specific instructions to the LTO in SECTION II and provide the required explanation and justification in SECTION III.</p>
i. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Slopes steeper than 50% where the erosion hazard rating (EHR) is HIGH or EXTREME.</p> <p>if YES, provide site specific instructions to the LTO in SECTION II and provide the required explanation and justification in SECTION III.</p>
j. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Slopes between 50% and 65% with a MODERATE EHR at: (percentage based on average slope on sample areas of 20 acres)</p> <p><input checked="" type="checkbox"/> Existing tractor roads that do not require reconstruction.</p> <p><input type="checkbox"/> [NORTHERN and SOUTHERN only] New tractor roads that have been flagged by an RPF or supervised designee prior to use.</p> <p><input type="checkbox"/> [COASTAL only] New tractor roads at a location that has been shown on the THP map, flagged by an RPF or supervised designee prior to the pre-harvest inspection, or prior to the start of timber operations if a PHI was not required.</p> <p>if YES, provide site specific instructions to the LTO in SECTION II.</p> <p><b>On slopes between 50 percent and 65 percent* where the erosion hazard rating is moderate, limit skid trail use to existing tractor roads that do not require reconstruction.</b></p> <p><b>* all slope percentages are for average slope steepness based on sample areas that are 20 acres. (914.2(f)(2))</b></p>

## CalTREES THP ITEMS #19-22 – GROUND BASED EQUIPMENT

k. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Slopes over 50% which lead without flattening to sufficiently dissipate water flow and trap sediment before it reaches a watercourse or lake?</p> <p>if YES, provide site specific instructions to the LTO in SECTION II and provide the required explanation and justification in SECTION III.</p> <p>One existing tractor road segment has been flagged for use by the RPF where slopes exceed 50% and where there is little topographic relief between the tractor road and the watercourse below. This tractor road is located as shown in Unit C on the THP. This tractor road was last used in the 1990's era harvest and there is no evidence of sediment delivery resulting from this use. We evaluated this area for cable yarding but found it to be unsuitable based on the terrain, road and watercourse locations. Impacts are minimized by using the existing stable tractor roads with an emphasis on skidding away from watercourses and minimizing overall tractor road density. Water break spacing along these trail segments shall be no greater than 75 feet. <u>If during use, concentrations of soil or debris is crowded off the outside edge of the tractor road it will be pulled back onto the skid trail surface at the completion of operations.</u> The surface of the tractor road will be mulched with slash at the completion of operations. Please see Section III of the THP for additional information concerning this practice.</p>
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**NOTE:**

- Per 14 CCR 1034(x)(15) all exceptions must be located on a map.
- If any question above is answered YES then tractor road locations must be flagged on the ground prior to the PHI or the start of timber operations if a PHI is not required.

**Additional information concerning slope stability:**

The San Andreas earthquake fault runs across the base of the plan area resulting in some atypical topography and disrupted drainage patterns. There are some instances of active stream channel bank erosion which are likely linked to seismic disruption but overall this area seems pretty stable given the presence of the fault line. Tractor logging estimated to date back to the 1960-70's carved up some steep slopes and resulted in shallow seated failures as described below. The current plan utilizes a range of silvicultural prescriptions and a combination of cable and tractor yarding methods based on stand conditions, landowner objectives, slope stability, water quality and wildlife concerns. LiDAR images have become available for us to utilize and our efforts have been aided significantly by the availability of LiDAR imagery.

**Deep Seated Landslides**

DMG Open-File Report 84-48, Geology and Geomorphic Features Relating to Landsliding, Gualala 7.5 Minute Quadrangle identified one dormant deep seated landslide in the plan area. During our field review we were unable to observe any compelling evidence of this feature. Elsewhere (most of Unit E for example) benchy terrain observed on the ground and in LiDAR images could be indicate very old deep seated slide activity. These areas are crossed by roads and have been harvested extensively in the past with a variety of silvicultures and harvest methods being utilized. We observed no active deep seated landslides suggesting that deep seated slides in this area are not highly sensitive to anthropogenic activity such as road construction and timber harvesting.

A study conducted on nearby Jackson State Demonstration Forest, was designed to investigation the relationship between landslides and even age timber harvesting. Over the course of 15 years (1980-1995) 50 blocks totaling 1800 acres of typically uncut 80-100 year old young growth forest were clear-cut with some units being broadcast burned in addition. This study area is quite similar to the Ten Mile River drainage in many ways including forest type, geologic and climatic conditions. These similarities are anticipated due to the close proximity of the study area to our project area. The paper published in 2007 reported that 34 landslides occurred in the study area post harvest and that all but two of the failures were road related. The paper further reports that "no deep-seated dormant landslides showed evidence of reactivation except road fill failures".

We believe that the range of silviculture proposed is appropriate for the project area and that this approach is far more conservative than the clear-cut and burn practices which were the focus of the JDSF study. We have tailored this timber harvest to allow for the continued harvest of timber in this area while remaining mindful of underlying unstable areas. We believe the current harvest will be successful based on the following factors:

- Results of the nearby JSDF study discussed above;
- Successful outcome from prior harvests in this area relative to maintained slope stability;
- Limiting harvest to in both scope and intensity as proposed,
- Utilizing cable yarding harvest methodology to the maximum extent feasible,
- Exclusion from harvest of certain areas and reduced harvest in other areas that may have an increased sensitivity to timber operations.

**Shallow Seated Landslides**

Shallow-seated landslides include hillslope failures, debris slides / torrents, channel bank failures, road fill, sidecast and cut bank failures. These types of failures are typically characterized by rapid, shallow displacement of surficial soil, colluvium, and weathered bedrock. Failures commonly leave bare scars which typically re-vegetate quickly in this region. There is a general consensus among field personnel that management related slides are typically shallow failures associated older roads and skid trails constructed across steep slopes typically greater than 65%. Silviculture related failures are, in comparison, much less frequent

This harvest has been designed so that the potential impact of harvesting on shallow landslide processes is minimized by excluding some areas from harvest, limiting harvesting in other areas, and extensive use of cable yarding harvest methodology on steep slopes. These practices are reflected in the current silviculture and harvest method boundaries as shown on the THP Maps.

## CalTREES THP ITEMS #19-22 – GROUND BASED EQUIPMENT

### Roads and Landings

Cable yarding on long contiguous steep slopes is desirable. Approximately 3600 feet of new road and landing construction is required to provide access for cable yarding. The road alignments selected fit the natural topography of the area and utilize topographic benches to minimize excavation required for construction of the roads and landings. These road segments and associated landings are located and designed so that neither the hydrology or overall mass balance of the hillslope will be altered.

### Landslide Inventory Table

#### Slide 1

Approximately 2200 feet of incised stream channel is defined by a series of stream bank failures. This area is best described as an "Inner Gorge". All of this area is located within the 150 foot wide Class 1 WLPZ associated with this area. The harvest method is cable. This area is located in THP Unit B.

#### Slide 2

A shallow failure sculpted this area 30-40 years ago based on field review. Emergent ground water and unenlightened skid trail construction were likely primary factors in this event. The area is re-vegetated and stable in appearance. A watercourse diversion is located just below here and corrective action is planned (see map point 26). Cable group selection harvest practices with no groups in this area are to be used here principally in recognition of slope stability constraints. The larger surrounding area is suggestive of deep seated activity based on the shape of the hills slope (concave and benchy), emergent ground water and slide activity at the toe of the slope described as an inner gorge in slide1 above. This area is located in THP Unit B.

#### Slide 3

A small sidecast failure here (20' x 20' +/-) occurred here less than 10 years ago. The road running surface is unaffected and remains sufficient for access. When this road segment is winterized avoid concentrating road surface drainage onto this area. This area is located in THP Unit B.

#### Slide 4

This area appears to have been sculpted by a very shallow sidecast failure occurring 20-30 years ago. The slope is heavily re-vegetated and stable in appearance. This area is located within the Unit B Class 2 WLPZ where harvest is limited to cable group selection with no groups flagged in this area. When this road segment is winterized avoid concentrating road surface drainage onto this area.

#### Slide 5

This area appears to be impacted by pre FPA skid trail construction rather than mass movement. The slope is heavily re-vegetated and stable in appearance. This area is located in a cable clear-cut unit. Cable yarding is the effective mitigation here and no adverse slope stability consequences are anticipated at this location as a result of the planned Unit C harvest.

#### Slide 6

A fill / sidecast failure extending 100+/- feet along a skid trail constructed across a steep slope sculpted the slope below. The age of this failure is uncertain but we estimate its occurrence to be 25-40 years ago. Downslope evidence of debris accumulated behind trees is still visible. The slope is heavily re-vegetated and stable in appearance. This area is scheduled for cable transition harvesting as part of Unit D.

#### Slide 7

A hill slope failure slumped down onto a skid trail located just above the Class 2 watercourse at this location. The age of this failure is uncertain but we estimate its occurrence to be 25-40 years ago similar to slide 5 described above. The slope is heavily re-vegetated and stable in appearance. This area is scheduled for cable transition harvesting as part of Unit D.

#### Slide 8

This location is characterized by channel bank erosion. This appears to be related to slope displacement associated with the earthquake fault rather than anthropogenic activity. Standard Class 2 WLPZ measures are in effect here. This feature is located in Unit D.

#### Slide 9

This location is similar to slide 8 above and is characterized by channel bank erosion except that gully formation is much more severe. This feature appears to be related to slope displacement associated with the earthquake fault rather than anthropogenic activity. We deleted this area from Unit D and shifted the harvest method in the surrounding area from tractor to cable to minimize disturbance in this area upslope of the Little North Fork stream channel.

#### Slide 10

A small stream bank slump was observed here approximately 20' x 40' in size. Deflected stream flow may have contributed to this slump. No timber operations are occurring at this location with which is within the Class I WLPZ at the base of Unit D.

#### Slide 11

A series of hill slope failures on steep slopes above a Class 2 watercourse were flagged out of the unit (Unit E) at this location. Within the unit above slopes moderate and tractor group selection is planned.

Contours (40 Foot Interval) Derived from USGS 3DEP 2018 LiDAR  
Legal Description Shown on Map is (Section Township Range) format all MDB&M  
Map Symbols A-E are Unit Designators

## CalTREES THP ITEM #23 – WINTER OPERATIONS

### ITEM # 23 – WINTER OPERATIONS

Per 14 CCR 895.1:

- “Winter period” means the period between November 15 and April 1, Except under special County Rules per 14 CCR:
  - 925.1 (Santa Clara)
  - 926.18 (Santa Cruz)
  - 927.1 (Marin)
  - 965.5 (Monterey)
- “Extended wet weather period” means the period from October 15 to May 1.
- Tractor roads (except as otherwise provided in the rules):
  - All waterbreaks shall be installed no later than the beginning of the winter period of the current year of timber operations.
  - Installation of drainage facilities and structures is required from October 15 to November 15 and April 1 to May 1 on all constructed skid trails and tractor roads prior to sunset if the National Weather Service forecast is a “chance” (30% or more) of rain within the next 24 hours per 14 CCR 914.6[934.6, 954.6](a).
- Logging roads and landings used for timber operations shall have adequate drainage:
  - Upon completion of use for the year or by October 15, whichever is earlier.
  - An exception is that drainage facilities and drainage structures do not need to be constructed on logging roads and landings in use during the extended wet weather period provided that all such drainage facilities and drainage structures are installed prior to the start of rain that generates overland flow. 923.5[943.5, 963.5](j).
- When the term “WPOP” (Winter Period Operating Plan) is used below, all the requirements per 14 CCR 914.7[934.7, 954.7] (b) must be addressed.

<b>ITEM #23</b>		<b>WINTER OPERATIONS</b>	
If timber operations are proposed within the winter period the RPF may propose to operate under a:			
<ul style="list-style-type: none"> <li>• Winter Period Operating Plan (WPOP) per 14 CCR 914.7, 934.7, 954.7(b)</li> <li>• In-lieu winter operating plan per 14 CCR 914.7 [934.7, 954.7](c)</li> </ul>			
a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will timber operations occur during the winter period?		
<b>WINTER PERIOD OPERTING PLAN (WPOP)</b>			
A Winter Period Operating Plan (WPOP) is required when winter operations will occur under the following conditions:			
<ul style="list-style-type: none"> <li>• Site preparation</li> <li>• Road and landing construction</li> <li>• Temporary logging road watercourse crossings will not be removed</li> <li>• At tractor watercourse crossings</li> <li>• Temporary logging roads or landings</li> <li>• Roads to be abandoned or deactivated</li> <li>• Operations are proposed in an ASP watershed or immediately upstream</li> </ul>			
b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will mechanical site preparation be conducted during the winter period? If YES, then a WPOP is required per 14 CCR 914.7(b)		
c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will roads be constructed during the winter period? If YES, a WPOP is required per 14 CCR 914.7 [934.7, 954.7] addressing logging road and landing construction and reconstruction per 14 CCR 923.4 [943.4, 963.4](l). Provide operational instructions to the LTO in SECTION II		
d. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will landings be constructed during the winter period? If YES, a WPOP is required per 14 CCR 914.7 [934.7, 954.7] addressing logging road and landing construction and reconstruction per 14 CCR 923.4 [943.4, 963.4](l). ). Provide operational instructions to the LTO in SECTION II		



### CalTREES THP ITEM #23 – WINTER OPERATIONS

e. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will temporary logging road watercourse crossings be left in place during the winter period? If YES, a WPOP is required per 14 CCR 923.9 [943.9, 963.9](r). Provide specific measures to be taken during operations by the LTO in SECTION II
f. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will tractor watercourse crossings be used during the winter period? If YES, a WPOP is required per 14 CCR 914.8 [934.8, 954.8](d). Provide operational instructions and stabilization measures in SECTION II.  If an exception is proposed provide an explanation and justification in SECTION III.
g. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will temporary logging roads be used during the winter period? If YES, a WPOP is required per 14 CCR 923.6 [943.6, 963.6](f) and 923.8 [943.8, 963.8](d). Provide specific measures to be taken during operations for the LTO in SECTION II.
h. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will temporary landings be used during the winter period? If YES, a WPOP is required per 14 CCR 923.6 [943.6, 963.6](f) and 923.8 [943.8, 963.8](d). Provide specific measures to be taken during operations for the LTO in SECTION II.
i. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will logging roads to be abandoned or deactivated, be open (not blocked) during the winter period? If YES, a WPOP is required per 14 CCR 923.6 [943.6, 963.6](f) and 923.8 [943.8, 963.8](d). Provide specific measures to be taken during operations for the LTO in SECTION II.
<b>ASP WATERSHEDS OR IMMEDIATELY UPSTREAM</b>	
<b>Extended Wet Weather Period:</b>	
j. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are timber operations proposed during the extended wet weather period – October to May 1? If YES, then a WPOP is required per 14 CCR 916.9 [936.9, 963.9](l) and (l)(1)
k. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will <u>logging roads construction or reconstruction</u> occur within the extended wet weather period? If YES, provide specific measures to be taken during operations per 14 CCR 923.6 [943.6, 963.6] (h)(6) and 923.4 [943.4, 963.4](s)(2) In SECTION II
l. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will <u>logging road use</u> occur within the extended wet weather period? If YES, provide specific measures to be taken during operations per 14 CCR 923.6 [943.6, 963.6] (h)(6) and 923.4 [943.4, 963.4](s)(2) In SECTION II
m. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will <u>landing construction or reconstruction</u> occur within the extended wet weather period? If YES, provide specific measures to be taken during operations per 14 CCR 923.6 [943.6, 963.6] (h)(6) and 923.4 [943.4, 963.4](s)(2) In SECTION II
n. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will <u>landing use</u> occur within the extended wet weather period? If YES, provide specific measures to be taken during operations per 14 CCR 923.6 [943.6, 963.6] (h)(6) and 923.4 [943.4, 963.4](s)(2) In SECTION II
o. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will any watercourse crossing drainage structures be <u>CONSTRUCTED</u> during the extended wet weather period? If YES, provide specific measures to be taken during operations per 14 CCR 923.9 [943.9, 963.9](s) In SECTION II
p. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will any watercourse crossing drainage structures be <u>RECONSTRUCTED</u> during the extended wet weather period? If YES, provide specific measures to be taken during operations per 14 CCR 923.9 [943.9, 963.9](s) In SECTION II

### CalTREES THP ITEM #23 – WINTER OPERATIONS

q.	[ <input checked="" type="checkbox"/> ]	If any of the questions above are answered YES then WPOP is required: RPF chooses to prepare a WPOP per 14 CCR 914.7(b)(1-12)
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**IF A WINTER OPERATING PLAN (WPOP) IS NOT BEING PROPOSED THEN THIS PAGE MAY BE REMOVED**

#### ITEM FF

WINTER PERIOD OPERATING PLAN (WPOP)	
Per 14 CCR 914.7 [934.7, 954.7](b) the WPOP shall include the specific measures to be taken during the winter period to avoid or substantially lessen erosion, soil movement into watercourses and soil compaction from timber operations. The winter period operating plan shall address the following subjects:	
1) Erosion Hazard Rating:	<i>The Erosion Hazard Rating for the plan area is Moderate and High</i>
2) Mechanical Site preparation methods:	<i>Mechanical Site Preparation is not proposed during the winter period but may occur in the extended wet weather periods as provided below</i>
3) Yarding system: (Constructed skid trails and tractor road watercourse crossings)	<i>Cable yarding may occur during the extended wet weather period. Ground based yarding may occur during the extended wet weather period as specified below under 'Equipment Use Limitations'</i>
4) Operating Period:	<p><u>Operating Period:</u> The following are the operating periods of various activities proposed. See also 'Equipment Use Limitations' (#10 below).</p> <ul style="list-style-type: none"> <li>◇ <u>October 15<sup>th</sup> to but NOT including November 15<sup>th</sup> Fall Operating Period (FOP):</u> <ul style="list-style-type: none"> <li>▪ Timber felling.</li> <li>▪ Timber felling within the WLPZ. Note to timber fellers, per 14 CCR 916.3(a) "When there is reasonable expectation that slash, debris, soil, or other material resulting from timber operations, felling, or associated activities, will be deposited in ... Class II waters below the watercourse ... transition line ... those harvest activities shall be deferred until equipment is available for its removal, or another procedure and schedule for completion of corrective work is approved by the Director." Understand that this may require you to clean out material by HAND.</li> <li>▪ Ground based and cable yarding.</li> <li>▪ Cable and ground based yarding of logs from the WLPZ.</li> <li>▪ Use of existing seasonal and permanent logging roads and landings for decking, loading, skidding, hauling (logs/rock), access, equipment transport, and logging road maintenance.</li> <li>▪ Use of existing seasonal and permanent logging roads and landings within the WLPZ.</li> <li>▪ Short term use of ground based equipment, landings and cable yarding, decking, loading, and transportation activities (logs, rock, equipment, ATVs, etc.) on seasonal logging roads until compliance with the winter operating plan and 916.9 (k) and (l) is no longer possible.</li> <li>▪ Logging road and landing construction/re-construction and logging road/landing rocking via ground-based equipment, subject to the limitations of 14 CCR 916.9.1(l) or as permitted under (10) - Equipment Use Limitations - below.</li> <li>▪ Site preparation activities.</li> </ul> </li> <li>◇ November 15<sup>th</sup> to but NOT including April 1<sup>st</sup> Winter Period. <b>No timber operations during winter period.</b></li> <li>◇ April 1<sup>st</sup> to but NOT including May 1<sup>st</sup> Spring Operating Period (SOP): <ul style="list-style-type: none"> <li>▪ Same as Fall Operating Period (FOP)</li> </ul> </li> </ul>
5) Erosion Control facilities timing:	Refer to Tables THP Item 18 for Erosion control Implementation Scheduling Requirements. The NWS broadcasts for the Fort Bragg/Mendocino area on a frequency of 162.40 or 162.55 MHz. See also 'Information Resources' in Item 18.
6) Consideration of form of precipitation: (rain or snow)	Any precipitation is expected to occur in the form of rain. Hail may occur during colder spells.

### CalTREES THP ITEM #23 – WINTER OPERATIONS

7) Ground conditions: (soil moisture conditions, frozen)	Use of logging roads and landings shall not occur when saturated soil conditions exist on the logging road, or when a stable operating surface does not exist on the logging road. Due to the local climate, hard frozen soil conditions are not expected. See other restrictions on operations after rainfall events elsewhere in this Item (below, #10, Equipment Use Limitations, and THP Item 18.)
8) Silvicultural system ground cover:	Group Selection, Transition, Seed Tree Removal and Cleat cut silvicultural methods are to be used. Most areas of the plan will retain a dense vegetative cover in the combined form of overstory/understory vegetation, slash, and associated logging debris.
9) Operations within the WLPZ:	See discussion of Operating Period in #4 above, as well as Equipment Use Limitations in #10 below.
10) Equipment limitations:	<p><u>Equipment Use Limitations:</u></p> <ul style="list-style-type: none"> <li>◇ October 15<sup>th</sup> to but NOT including November 15<sup>th</sup> Fall Operating Period (FOP): <ul style="list-style-type: none"> <li>▪ No more than 2 tractor roads greater than 300 feet in length shall be open (i.e. no drainage facilities installed) per piece of operational ground based skidding equipment per LTO.</li> <li>▪ Also refer to THP Item 18.</li> <li>▪ None of these prohibitions shall prohibit activities, which are undertaken to protect the logging road or to reduce erosion per 14 CCR 923.6. An example of such action would be access to a culvert that has become blocked, resulting in the fill becoming saturated and potentially leading to fill failure.</li> </ul> </li> <li>◇ November 15<sup>th</sup> to but NOT including April 1<sup>st</sup> Winter Period. <p style="text-align: center;"><b>No timber operations during winter period.</b></p> </li> <li>◇ April 1<sup>st</sup> to but NOT including May 1<sup>st</sup> Spring Operating Period (SOP) April 1 to May 1: <ul style="list-style-type: none"> <li>▪ No more than 2 tractor roads greater than 300 feet in length shall be open (i.e. no drainage facilities installed) per piece of operational ground based skidding equipment per operator.</li> <li>▪ No ground based operations in: a) in cable areas, b) on unstable areas (except on permanent logging roads), c) on slopes over 65%, d) slopes over 50% with high EHR, e) within a WLPZ (except on permanent logging roads).</li> <li>▪ Also refer to THP Item 18.</li> <li>▪ None of these prohibitions shall prohibit activities, which are undertaken to protect the logging road or to reduce erosion per 14 CCR 923.6. An example of such action would be access to a culvert that has become blocked, resulting in the fill becoming saturated and potentially leading to fill failure.</li> </ul> </li> </ul>
11) Known Unstable Areas:	Timber felling and cable yarding may occur on unstable areas at any time subject to the limitations built into this harvest document.
12) Logging roads and landings:	See discussion of Operating Period in #4 above, as well as Equipment Use Limitations in #10 above.

#### Other Instructions to LTO:

☛ See also THP Item 18 for various erosion control requirements including timing of installation.

**Note:** "Winter period" means the period between November 15 and April 1, except as noted under special County Rules at Title 14 CCR 925.1, 926.18, 927.1, and 965.5... (a) except as otherwise provided in the rules: (1) All waterbreaks shall be installed no later than the beginning of the winter period of the current year of timber operations. (2) Installation of drainage facilities and structures is required from October 15 to November 15 and April 1 to May 1 on all constructed skid trails and tractor roads prior to sunset if the National Weather Service forecast is a "chance" (30% or more) of rain within the next 24 hours. See also Item 18 regarding waterbreak spacing and timing of installation.

#### IN-LIEU WINTER PERIOD OPERATION PLAN

r.	<input type="checkbox"/>	RPF chooses the in-lieu winter operating plan option as allowed per 14 CCR 914.7(c)(1-3)
	<input checked="" type="checkbox"/>	Specify the procedures listed in subsections (1) and (2), and list the site specific measures for operations in the WLPZ and unstable areas as required by subsection (3).



### CalTREES THP ITEM #23 – WINTER OPERATIONS

<p>s. <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p style="text-align: center; border: 1px solid black; padding: 2px;">N/A</p>	<p>Will the in-lieu winter operating plan include operations within WLPZ(s) or unstable area(s) during the winter period?</p> <p>If YES, provide site specific measures per 14 CCR 914 [934, 954] to protect the beneficial uses of water in SECTION II as instructions to the LTO.</p>
<b>Hauling and heavy equipment use roads and landings</b>	
<p>t. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Will <u>ROADS</u> be used for log hauling and heavy equipment use during the winter period where there will not be a stable operating surface or surfaced with rock to a depth and quantity sufficient to maintain a stable operating surface?</p> <p>If YES, the required explanation and justification should be provided in SECTION III per 14 CCR 923.6 [943.6, 963.6](g) and 914.7[934.7,954.7].</p>
<p>u. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Will <u>LANDINGS</u> be used for log hauling and heavy equipment use during the winter period where there will not be a stable operating surface or surfaced with rock to a depth and quantity sufficient to maintain a stable operating surface?</p> <p>If YES, the required explanation and justification should be provided in SECTION III per 14 CCR 923.6 [943.6, 963.6](g) and 914.7[934.7,954.7].</p>
<b>Hauling and heavy equipment use on hydrologically disconnected or saturated soils.</b>	
<p>v. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Will <u>ROADS</u> be used for log hauling and heavy equipment use during the winter period on roads that are NOT hydrologically disconnected and exhibit saturated soil conditions?</p> <p>If YES, provide a required explanation and justification in SECTION III. per 14 CCR 923.6 [943.6, 963.6](g) and 914.7[934.7,954.7].</p>
<p>w. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Will <u>LANDINGS</u> be used for log hauling and heavy equipment use during the winter period on roads that are NOT hydrologically disconnected and exhibit saturated soil conditions?</p> <p>If YES, provide a required explanation and justification in SECTION III. per 14 CCR 923.6 [943.6, 963.6](g) and 914.7[934.7,954.7].</p>
<b>Watercourse crossing removal</b>	
<p>x. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Will any logging road watercourse crossing proposed for removal and/or stabilization be left in place during the winter period?</p> <p>If YES, provide operational instructions to the LTO addressing the specifics of the applicable CDFW 1600 agreement, Lake and Streambed alteration agreement or otherwise specify in the plan. Per 14 CCR 923.9[943.9, 963.9](p)(4) In SECTION II</p>

**ITEM # 24 – ROADS AND LANDINGS**

ITEM #24	ROAD CONSTRUCTION
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Will any road(s) be CONSTRUCTED?</b>
	<p>PROVIDE: The classification and approximate length of each of the following logging road segment categories: 1034(o)</p> <p>Road classification:      Approximate length Feet:</p> <p><input type="checkbox"/> Permanent      _____</p> <p><input checked="" type="checkbox"/> Seasonal      <u>3600 Feet New Construction</u></p> <p><input type="checkbox"/> Temporary      _____</p>
b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will new road construction be wider than single lane with turnouts?</p> <p>If YES, address pursuant to 14 CCR 923 [943, 963](c) &amp; 923.2 [943.2, 963.2](d)(1)</p>
c. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will any new Logging road(s) cross?</p> <p><input checked="" type="checkbox"/> Unstable areas</p> <p><input type="checkbox"/> Connected headwall swales (14 CCR 895.1 "Connected Headwall Swale")</p> <p><input type="checkbox"/> Both</p> <p>If YES, address pursuant to 14 CCR 923.1(d)</p> <p><b>A short road spur (480 feet) and landing are planned on a topographic bench located near crossing #6 as shown on the THP Map. CGS<sub>1</sub> maps show this area as being underlain by a dormant deep seated landslide. Review of both LiDAR imagery and ground conditions gives no indication to me that this area is any more or less impacted by mass movement over geologic time than the surrounding hill slopes. A road and landing is planned in this area as mapped to provide access for cable yarding. Slopes along the road grade are &lt;20% and using the road as planned would have little effect on the dormant deep seated slide even if it does exist based on the planned use not altering the mass balance of the feature. Other roads and landings have been built and used on this feature without any discernable evidence of activation. This road segment is to be constructed in a manner consistent with standard construction practices itemized in Item 25.</b></p> <p>(1) Davenport, C.W., 1984, DMG Open-File Report 84-48, Geology and Geomorphic Features Related to Landsliding, Gualala 7.5' Quadrangle, Mendocino County, California Scale 1:24,000</p>
d. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will any new roads?</p> <p><input checked="" type="checkbox"/> Exceed a grade of 15%      (Only short distances &lt;200 feet)</p> <p><input type="checkbox"/> Have grades greater than 15% for distances greater than 500 feet</p> <p><input type="checkbox"/> Both</p> <p>NOTE: per 14 CCR 1034(x)(5)(A) new road construction or reconstruction segments exceeding 15% for 200 feet shall be mapped.</p> <p>If YES, address pursuant to 14 CCR 923.2(d)(2). See 923(c).</p>
e. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any logging roads be constructed within?</p> <p><input type="checkbox"/> 150 feet of a Class I Watercourse and Lake Transition Line (WLTL)</p> <p><input type="checkbox"/> 100 feet of a class II WLTL on slopes greater than 30%</p> <p><input type="checkbox"/> Class I Watercourse or Lake</p> <p><input type="checkbox"/> Class II Watercourse or Lake</p> <p><input type="checkbox"/> Class III Watercourse or Lake</p> <p><input type="checkbox"/> Class IV Watercourse or Lake</p> <p><input type="checkbox"/> A Watercourse and Lake Production Zone (WLPZ)</p> <p><input type="checkbox"/> Other (Examples; marshes, wet meadows, wet areas)</p> <p>If "OTHER" is selected describe the type of feature referenced below.</p> <p>NOTE: Exceptions are permitted per 14 CCR 923.1(b)(1) – (3) at:</p> <ul style="list-style-type: none"> <li>- Existing logging road crossing(s)</li> <li>- Logging road watercourse crossing(s) to be constructed that are approved as part of a Fish and Game Code process (F&amp;GC 1600 et seq.)</li> <li>- Logging road watercourse crossings of class III watercourses that are dry at the time of use.</li> </ul> <p>If YES, address per 14 CCR 923 (c)</p>



<p>l. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Will any reconstructed road be located across 100 feet or more lineal distance on?</p> <p><input checked="" type="checkbox"/> slopes over 65%</p> <p><input type="checkbox"/> Slopes over 50% which are within 100 feet of the boundary of a WLPZ that drains toward the zoned watercourse or lake.</p> <p style="text-align: center;">If YES, address per 14 CCR 923.2(a)(7) and 923.4(n)</p> <p><b><u>Logging road reconstruction on slopes &gt;50%</u></b>          Logging road reconstruction is proposed on slopes over 65% (which are NOT within 100 feet of a WLPZ) as shown on the THP Maps. The purpose of this road reconstruction is to gain access for cable yarding from the existing road West of crossing #12.</p> <p>This area is listed as reconstruction because fill material was pulled back and stored against the cut bank within the past 10-15 years making the road impassable. This road segment is 250 feet long and consists of the approaches to crossing #12. Given the steep slopes below the road and proximity to the Class III watercourse this logging road segment is to be constructed full bench with an excavator and end haul techniques consistent with 14 CCR 923.4(s)(1)(B). End hauled spoils will be relocated to stable locations outside of a WLPZ, EEZ, or ELZ on slopes less than 30%.</p>
<p>m. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Is there any exception to flagging or otherwise identifying the location of any road(s) to be reconstructed?</p> <p style="text-align: center;">If YES, address per 14 CCR 923.3 [943.3, 963.3](c)</p>
<b>LANDING CONSTRUCTION</b>	
<p>n. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Will any Landing(s) be CONSTRUCTED?</p> <p><b><u>New Landing Construction:</u></b> It may be necessary to construct new landings within the plan area. Any new landings will be located so that substantial excavation will not be required. Landing size shall be no greater than 1/4 acre in size and construction shall be in compliance with 14 CCR 923.5. If additional new landings need to be constructed they shall be at locations that shall not require substantial excavation and their size shall be no greater than 1/4 acre.</p>
<p>o. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Will any landing(s) be constructed within?</p> <p><input type="checkbox"/> 150 feet of a Class I Watercourse and Lake Transition Line (WLTL)</p> <p><input type="checkbox"/> 100 feet of a class II WLTL on slopes greater than 30%</p> <p><input type="checkbox"/> Class I Watercourse or Lake</p> <p><input type="checkbox"/> Class II Watercourse or Lake</p> <p><input type="checkbox"/> Class III Watercourse or Lake</p> <p><input type="checkbox"/> Class IV Watercourse or Lake</p> <p><input type="checkbox"/> A Watercourse and Lake Protection Zone (WLPZ)</p> <p><input type="checkbox"/> Other (Examples; marshes, wet meadows, wet areas)</p> <p style="padding-left: 40px;">If "OTHER" is selected describe the type of feature referenced below.</p> <p>NOTE: Exceptions are permitted per 14 CCR 923.1 [ 943.1, 963.1](b)(1) – (3) at:</p> <ul style="list-style-type: none"> <li>- Existing crossing(s)</li> <li>- Logging road watercourse crossing(s) to be constructed that are approved as part of a Fish and Game Code process (F&amp;GC 1600 et seq.)</li> <li>- Logging road watercourse crossings of class III watercourses that are dry at the time of use.</li> </ul> <p style="text-align: center;">If YES, address per 14 CCR 923 [943, 963](c)</p>
<p>p. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Will any landing(s) exceed one half acre in size?</p> <p>NOTE: per 14 CCR 1034(x)(5)(D) if any landing exceeds 1/4 acre in size or requires substantial excavation, the location shall be mapped.</p> <p style="text-align: center;">If YES, address per 14 CCR 923(c) and 923.2(e)(2)</p>

<b>q.</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will any Landing(s) be located on?</p> <p><input checked="" type="checkbox"/> Unstable areas</p> <p><input type="checkbox"/> Connected headwall swales (14 CCR 895.1 "Connected Headwall Swale")</p> <p><input type="checkbox"/> Both</p> <p style="text-align: center;">If YES, address pursuant to 14 CCR 923.1(d)</p> <p>A short road spur and landing are planned on a topographic bench located near crossing #6 on the THP Map. CGS maps show this area as being underlain by a dormant deep seated landslide. Review of both LiDAR imagery and ground conditions gives no indication to me that this area is any more or less impacted by mass movement over geologic time than the surrounding hill slopes. A road and landing is planned in this area as mapped to provide access for cable yarding. Slopes along the road grade are &lt;20% and using the road as planned would have little effect on the dormant deep seated slide even if it does exist based on the planned use not altering the mass balance of the feature. Other roads and landings have been built and used on this feature without any discernable evidence of activation. This road segment is to be constructed in a manner consistent with standard construction practices itemized in Item 25.</p> <p>(1) Davenport, C.W., 1984, DMG Open-File Report 84-48, Geology and Geomorphic Features Related to Landsliding, Gualala 7.5' Quadrangle, Mendocino County, California Scale 1:24,000</p>
<b>r.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any landing construction be located across 100 feet or more lineal distance on?</p> <p><input type="checkbox"/> Slopes over 65%</p> <p><input type="checkbox"/> Slopes over 50% which are within 100 feet of the boundary of a WLPZ that drains toward the zoned watercourse or lake.</p> <p style="text-align: center;">If YES, address per 14 CCR 923.2(a)(7) and 923.4(n)</p>
<b>s.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any Landing(s) be deactivated?</p> <p>Will any Landing(s) be abandoned?</p> <p style="text-align: center;">If YES, describe specific measures to prevent significant sediment discharge. per 14 CCR 923.8 [943.8, 963.8] et seq. and 923.9 [943.9, 963.9](e) and (p)</p>

LANDING RECONSTRUCTION	
<b>t.</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will any Landing(s) be RECONSTRUCTED?</p>
<b>u.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any logging roads be reconstructed within?</p> <p><input type="checkbox"/> Class I Watercourse or Lake</p> <p><input type="checkbox"/> Class II Watercourse or Lake</p> <p><input type="checkbox"/> Class III Watercourse or Lake</p> <p><input type="checkbox"/> Class IV Watercourse or Lake</p> <p><input type="checkbox"/> A Watercourse and Lake Protection Zone (WLPZ)</p> <p><input type="checkbox"/> Other (Examples; marshes, wet meadows, wet areas)</p> <p style="text-align: center;">If "OTHER" is selected describe the type of feature referenced below.</p> <p>NOTE: Exceptions are permitted per 14 CCR 923.1 [943.1, 963.1](b)(1) – (3) at:</p> <ul style="list-style-type: none"> <li>- Existing logging roads crossing(s)</li> <li>- Logging road watercourse crossing(s) to be constructed that are approved as part of a Fish and Game Code process (F&amp;GC 1600 et seq.)</li> <li>- Logging road watercourse crossings of class III watercourses that are dry at the time of use.</li> </ul> <p style="text-align: center;">If YES, address per 14 CCR 923 [943, 963](c)</p>
<b>u.1.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will any landing reconstruction be located across 100 feet or more lineal distance on?</p> <p><input type="checkbox"/> Slopes over 65%</p> <p><input type="checkbox"/> Slopes over 50% which are within 100 feet of the boundary of a WLPZ that drains toward the zoned watercourse or lake.</p> <p style="text-align: center;">If YES, address per 14 CCR 923.2 [943.2, 963.2](a)(7) and 923.4 [943.4, 963.4](n)</p>

SIGNIFICANT EROSION SITE(S)	
W. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Are there any significant erosion sites?</p> <p><input type="checkbox"/> Existing</p> <p><input type="checkbox"/> Potential</p> <p><input checked="" type="checkbox"/> Both</p> <p>Associated within the logging area at?</p> <p><input checked="" type="checkbox"/> Logging road(s)</p> <p><input type="checkbox"/> Landing(s)</p> <p><input checked="" type="checkbox"/> Watercourse crossing(s) in the logging area?</p> <p>Per 14 CCR 923.1(e)(1) – (5). Also see 923.9(a)</p> <p><b>PLEASE REFER TO THE MAP POINT TABLE FOR ADDITIONAL INFORMATION</b></p> <p><b>If YES, for each significant existing or potential erosion site, provide the following:</b></p> <ul style="list-style-type: none"> <li>➤ Describe current condition of the site.</li> <li>➤ Identify which sites can be feasibly treated, and which sites cannot.</li> <li>➤ Specify mitigations for those sites that can be feasibly treated.</li> <li>➤ Indicate logical order of treatment for those which have feasible treatments</li> </ul> <p>NOTE: Consider providing a MAP POINT TABLE which identifies the erosion site by mapped referenced identifier consistent with mapped locations.</p> <p><b>SEE MAP POINT TABLE LOCATED NEAR THE END OF THP SECTION 2</b></p>

#### ITEM #25

NOTE: If any item listed above is checked "YES" Provide:

- Operations Instructions to the LTO, in accordance with the respective rule requirement(s) in SECTION II of the THP.
- Any required explanation and justification should be included in SECTION III

#### Logging road use rules and considerations for new construction and reconstruction of seasonal logging roads.

- One road reconstruction section flagged and marked in the field is located on slopes over 65%. This area is listed as reconstruction because fill material was pulled back and stored against the cut bank within the past 10-15 years making the road impassable. This road segment is 250 feet long and consists of the approaches to crossing #12. Given the steep slopes below the road and proximity to the Class III watercourse this logging road segment is to be constructed full bench with an excavator and end haul techniques. End hauled spoils will be relocated to stable locations outside of a WLPZ, EEZ, or ELZ on slopes less than 30%.
- New and reconstructed logging roads shall be outsloped where feasible and drained with water breaks or rolling dips (where the logging road grade is inclined at 7% or less), in conformance with other applicable forest practice rules.
- On slopes greater than 35%, the organic layer of the soil shall be substantially disturbed or removed prior to fill placement.
- Through fills shall be constructed and compacted in approximately one-foot lifts.
- Fills, including through fills across watercourses shall be constructed in a manner to minimize erosion of fill slopes using techniques such as insloping through-fill approaches, waterbars, berms, rock armoring of fill slopes, or other suitable methods.
- Excess material from logging road construction and reconstruction shall be deposited and stabilized in a manner or in areas where downstream beneficial uses of water will not be adversely affected. Such materials shall be compacted.
- Waste organic material, such as uprooted stumps, cull logs, accumulations of limbs and branches, and unmerchantable trees, shall not be buried in logging road fills. Wood debris or cull logs and chunks may be placed and stabilized at the toe of fills to restrain excavated soil from moving downslope. Slash and other debris from logging road construction shall not be bunched against residual trees which are required for silvicultural or wildlife purposes, nor shall it be placed in locations where it could be discharged into Class I or II watercourses.

- Logging roads shall be constructed without overhanging banks.
- Any tree greater than or equal 12 inches dbh with more than 25% of the root surface exposed by logging road construction, shall be felled concurrently with the timber operations.
- Sidecast or fill material extending more than 20 feet in slope distance from the outside edge of the roadbed which has access to a watercourse which is protected by a WLPZ shall be mulched as specified in Item 18 of the THP.
- Drainage structures and drainage facilities on logging roads shall not discharge on erodible fill or other erodible material unless suitable energy dissipaters are used.
- No logging road construction shall occur under saturated soil conditions, except that construction may occur on isolated wet spots arising from localized ground water such as seeps, provided measures are taken to prevent material from significantly damaging water quality.

#### Rock Sources

Rock may be required in this THP for the purposes of logging road rocking, patch rocking, fill slope armoring/energy dissipaters, installation of rocked rolling dips, etc. Rock for these activities may be obtained at the existing rock pit located as shown on the Appurtenant Roads THP Map. This rock source is located on the Timberland Owners' property and is located at a distance in excess of 100 feet from a Class I watercourse, 75 feet from a Class II watercourse and 50 feet from a Class III watercourse. As such, this rock source meets the requirements of Section 2714 of the Surface Mining and Reclamation Act of 1975.

Alternatively, where minor amounts of rock are needed (30 – 50 cubic yards) and rocky outcrops are present in logging road or landing cuts such rock may be obtained from these sources so long as it does not result in bank instability and is not located within a WLPZ, EEZ or ELZ associated with a watercourse.

Additionally, rock may be purchased from commercial sources.

**SEE MAP POINT TABLE LOCATED NEAR THE END OF THP SECTION 2  
FOR SITE SPECIFIC REQUIREMENTS AT MAP POINTS**

ASP WATERSHEDS	
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will hauling on roads and landings be limited to those which are Hydrologically disconnected from watercourses to the extent feasible, and exhibit a stable operating surface? If NO, address the exception pursuant to 923.6 (h)(3).
ADDRESS THE FOLLOWING AS IT APPLIES TO ASP WATERSHEDS OR IMMEDIATELY UPSTREAM AND CONTIGUOUS TO, ANY WATERSHED WITH LISTED ANADROMOUS SALMONIDS	
<ul style="list-style-type: none"> <li>• When logging road(s) or landing(s) construction or reconstruction is proposed identify:               <ol style="list-style-type: none"> <li>1) How the proposed operations will fit into the systematic layout pattern. Per 14 CCR 923.1 (g) Where new landings are used in conjunction with ground based skidding the purpose is to reduce skidding distance. Reduced skidding distance increases efficiency of effort, reduces fuel consumption and site disturbance associated with the dragging of logs. The advent and wide spread use of heel boom log loaders significantly reduces required landing size and associated site disturbance. Areas proposed for cable yarding were previously tractor yarded and landings to facilitate cable yarding will be used. Yarder landing locations are highly terrain dependent and with the advent of swing yarders and heel boom log loaders required landing size for these operations has significantly diminished over time.</li> <li>2) What, if any, offsetting mitigation measures (including but not limited to, abandonment of logging road(s) and landing(s) are needed to minimize potential adverse impacts to watersheds from the road system. Per 14 CCR 923.1 (g) To minimize the effects of long-term site occupancy of the transportation system within the watershed and to help offset the new road construction that is proposed, the existing tractor road network will not be re-used within cable designated areas. The non-use of these existing trails, which have since been predominantly re-occupied by conifer regeneration, will allow this growing space to be placed back into permanent timber production.</li> </ol> </li> </ul>	

- Provide specific provisions for the protection of salmonid habitat for all logging road(s) construction:

3) On slopes, greater than 50% with access to a watercourse or lake. Per 14 CCR 923.4(s)(1)

**Logging road reconstruction on slopes >50%**

Logging road reconstruction is proposed on slopes over 65% (which are NOT within 100 feet of a WLPZ) as shown on the THP Maps. The purpose of this road reconstruction is to gain access for cable yarding from the existing road West of crossing #12.

This area is listed as reconstruction because fill material was pulled back and stored against the cut bank within the past 10-15 years making the road impassable. This road segment is 250 feet long and consists of the approaches to crossing #12. Given the steep slopes below the road and proximity to the Class III watercourse this logging road segment is to be reconstructed full bench with an excavator and end haul techniques consistent with 14 CCR 923.4(s)(1)(B). End hauled spoils will be relocated to stable locations outside of a WLPZ, EEZ, or ELZ on slopes less than 30%.

- Provide specific erosion control measures for all permanent and seasonal roads:

4) With a grade of 15% or greater which extends 500 feet or more.  
Per 14 CCR 923.5 [943.5, 963.5](q)(2)

There are segments of existing logging roads which have grades of 15% or greater for distances greater than 500 feet as shown on the THP map.

- Seasonal logging roads with grades at or in excess of 15% for continuous distances of 500 feet or greater shall have erosion control structures installed every 100 feet.
- No permanent roads with grades >15% are associated with this THP.



# CalTREESTHP ITEMS 26– WATERCOURSES

## ITEM #26– WATERCOURSE LAKE PROTECTION ZONE (WLPZ) PROTECTION MEASURES

ITEM #26		WATERCOURSES	
<p>Per 14 CCR 916, 936, 956 – Intent of Watercourse and lake Protection [ALL DISTRICTS] – The purpose of this article is to ensure that timber operations do not potentially cause significant adverse site-specific and cumulative impacts to the beneficial uses of water, native aquatic and riparian-associated species, and the beneficial functions of riparian zones; or result in an unauthorized take of listed aquatic species; or threaten to cause violation of any applicable legal requirements. This article also provides protection measures for application in watersheds with listed anadromous salmonids and watersheds listed as water quality limited under Section 303(d) of the Federal Clean Water Act.</p> <p>It is the intent of the Board to restore, enhance, and maintain the productivity of timberlands while providing appropriate levels of consideration for the quality and beneficial uses of water relative to that productivity.... Further, it is the intent of the Board that the evaluations that are made, and the measures that are taken or prescribed, be documented in a manner that clearly and accurately represents those existing conditions and those measures.</p>			
<p>a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>		<p>Are there any watercourses or lakes classified as a CLASS I through CLASS IV within or adjacent to the plan area? (Check all that apply)</p>	
		<p><u>Within plan area</u></p> <p><input checked="" type="checkbox"/> Class I:</p> <p><input checked="" type="checkbox"/> Class II:</p> <p><input checked="" type="checkbox"/> Class III:</p> <p><input type="checkbox"/> Class IV:</p> <p><input type="checkbox"/> Lakes:</p> <p><input checked="" type="checkbox"/> Other (Springs, Seeps)</p>	<p><u>Adjacent to plan area</u></p> <p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>

<p>If YES, to above question list:</p> <ul style="list-style-type: none"> <li>• Class of the water feature</li> <li>• Associated WLPZ or ELZ and width</li> <li>• Protection measures; determined from 14 CCR 916.5[936.5, 956.5], Table I. and/or 14 CCR 916.9[936.9, 956.9] et seq.</li> <li>• Specify if Class III or IV watercourses will have a WLPZ or ELZ</li> </ul>	
<p>b. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>Will Class III or IV watercourses be protected with a WLPZ or ELZ?</p> <p>If YES, describe below <b>Class 3 watercourses will have an ELZ.</b></p>	

LTO instructions: **See watercourse protection measures below.**

Watercourse description and protection measures to be applied:					
Slope Class	Class I with Confined Channel Zone Width (feet) Core/Inner Zone/Outer Zone	Class II-L WLPZ Zone Width (feet) Core/Inner Zones	Class II-S WLPZ Zone Width (feet) Core/Inner Zones	Class III ELZ Width (feet)	Wet Area ELZ Width (feet)
<10%	30/70/50*	30/70	15/35	30	50
10-30%	30/70/50*	30/70	15/35	30	50
30-50%	30/70/50*	30/70	15/60	50	50
>50%	30/70/50*	30/70	15/85	50	50

• \* Note: Outer zone only in this plan where adjacent to clear cut silviculture.

## CalTREESTHP ITEMS 26- WATERCOURSES

### Class I watercourses:

The Little North Fork Gualala River is a Class I fish bearing watercourse. One additional tributary is also a Class 1 watercourse according to the CDFW stream model. Please refer to the THP Map for a comprehensive view of all Class 1 watercourse segments associated with the project area.

### Class I watercourse protection measures:

- The overstory canopy must be composed of at least 25% overstory conifer canopy post-harvest. If the above noted canopy levels are lacking in any given area timber is not marked for removal in that area, however it may be marked elsewhere in the zone.
- Silvicultural methods are limited to single tree selection within the WLPZ.
- WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.
- Pursuant to 14 CCR 916.9(f)(2)(B)4, the thirteen (13) largest dbh conifers (live or dead) on each acre of the area that encompasses the Core and Inner Zones shall be retained. The retained confers shall be selected from within the THP area that lies within 100 feet of the watercourse transition line.
- Pursuant to 14 CCR 916.9(f)(2)(B)5, large trees that are most conducive to recruitment to provide for beneficial functions of riparian zones shall be given priority for retention.

The enforceable standard for shade canopy retention is:

- Core Zone, within 30 feet of the watercourse transition line, no timber operations except for those listed in {14 CCR 916.9(e)(1)(A)-(F)}. No timber operations are proposed within any channel zone of a Class I watercourse except use of overhead cables used in yarding operations.
- Inner Zone, 70 feet wide from the core zone, maintain a minimum 80% overstory canopy. Harvest trees are marked with blue paint.
- Adjacent to uneven age silviculture areas, the WLPZ is flagged at a minimum width of 100 feet with blue/white striped "Lake and Watercourse Protection Zone" flagging in addition to solid orange flagging for greater visibility.
- Adjacent to clear cut silviculture units the "Outer Zone B" extends for 50 feet beyond the landward edge of the Inner Zone. The selection silvicultural system is employed in the outer zone as well as the inner zone. The post harvest stand in the outer zone will have a minimum overstory cover of 50%. The post harvest canopy may be composed of both conifer and hardwood species and shall have at least 25% overstory conifer canopy.
- WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.
- Pursuant to 14 CCR 916.9(f)(2)(B)4, the thirteen (13) largest dbh conifers (live or dead) on each acre of the area that encompasses the Core and Inner Zones shall be retained. The retained confers shall be selected from within the THP area that lies within 100 feet of the watercourse transition line.

### Class II Watercourses:

There are numerous Class II watercourses within and adjacent to the harvest area. Current shade canopy levels along Class II watercourses range from 80% to 95% or higher. Class II watercourses located within or adjacent to the project area consist of both Class II-L watercourses and Class II-S (standard) watercourses. Please refer to THP Section 3 for additional information concerning our evaluation of individual watercourses relative to Class II (L) or Class II (S) designation. Please refer to the THP Map for location of Class II-L and Class II-S watercourse segments.

### Class II-L Watercourse Protection

- The enforceable standard for shade canopy retention for Class II-L watercourses is:
  - Core Zone, within 30 feet of the watercourse transition line, no timber operations except for those listed in {14 CCR 916.9(e)(1)(A)-(F)}. No timber operations are proposed within any channel zone of a Class II except for work at map points, watercourse crossings and full suspension cable yarding when necessary to transport logs through the channel zone as allowed pursuant to {14 CCR 916.9(e)(1)(A)-(F)}.
  - Inner Zone a minimum 80% overstory canopy shall be retained within 70 feet of the Core Zone.
- The WLPZ is flagged at 100 feet with blue/white striped "Lake and Watercourse Protection Zone" flagging in addition to solid red flagging for greater visibility.
- The overstory canopy must be composed of at least 25% overstory conifer canopy post-harvest. If the above noted canopy levels are lacking in any given area timber is not marked for removal in that area, however it may be marked elsewhere in the zone.
- WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.
- Pursuant to 14 CCR 916.9(f)(2)(B)4, the thirteen (13) largest dbh conifers (live or dead) on each acre of the area that encompasses the Core and Inner Zones shall be retained. The retained confers shall be selected from within the THP area that lies within 100 feet of the watercourse transition line.

Please refer to the Operators Map for the location of stream segments which have Class II-L protection measures.

### Class II-S Watercourse Protection

The enforceable standard for shade canopy retention for Class II-S watercourses is:

- Core Zone is 15 feet from the watercourse transition line, no timber operations except for those listed in {14 CCR 916.9(e)(1)(A)-(F)}. No timber operations are proposed within any channel zone of a Class II except for work at map points, watercourse crossings and full suspension cable yarding when necessary to transport logs through the channel zone as allowed pursuant to {14 CCR 916.9(e)(1)(A)-(F)}.
- Inner Zone is variable width, slope dependent, ranging from 35 to 85 feet from the core zone, a minimum 50% multi-story canopy shall be retained within this zone.
- The WLPZ is flagged at a slope dependent width of 50, 75 or 100 feet with blue/white striped "Lake and Watercourse Protection Zone" flagging in addition to solid red flagging for greater visibility.
- The overstory canopy must be composed of at least 25% overstory conifer canopy post-harvest. If the above noted canopy levels are lacking in any given area timber is not marked for removal in that area, however it may be marked elsewhere in the zone.
- WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.

### Class III Watercourses:

The centerlines of Class III watercourses are flagged with white and blue polka dot flagging. The location of Class III watercourses are as shown on the THP Map(s). Class III watercourses within the project range in characteristics from well defined channels which only flow in response to precipitation events, to poorly defined channels which have storm flows which are so low that resulting channels are hard to observe or follow.

The following are the minimum requirements for timber operations in Class III watercourses per {916.9(h)}:

- (1) Establish a 30 foot wide ELZ on both sides of the watercourse for slopes less than 30% and an additional 20 foot ELZ where sideslopes are >30%. The ELZ is measured from the WTL. Within the ELZ:
  - (A) no new construction of tractor roads permitted;
  - (B) no ground based equipment on slopes >50%; and
  - (C) ground-based operations are limited to existing stable tractor roads that show no visible evidence of sediment deposition being transported into the adjacent watercourse or to the use of feller- bunchers or shovel yarding.
- (2) Retain all pre-existing large wood on the ground within the ELZ that is stabilizing sediment and is necessary to prevent potential discharge into the watercourse.
- (3) Retain all pre-existing down wood and debris in the channel zone.
- (4) Retain hardwoods, where feasible, within the ELZ.
- (5) Retain all snags (except as required for safety) within the ELZ.
- (6) Retain all countable trees needed to achieve resource conservation standards in 14 CCR 912.7 within the ELZ.
- (7) Retain all trees in the ELZ and channel zone which show visible indicators of providing bank or bed stability, excluding sprouting conifers that do not have boles overlapping the channel zone. Visible indicators of stability include roots that permeate the bank or provide channel grade control.
- (8) No timber operations are proposed within any channel zone of a Class III except for work at map points, watercourse crossings and full suspension cable yarding when necessary to transport logs through the channel zone as allowed pursuant to {14 CCR 916.9(e)(1)(A)-(F)}.

In addition to the ELZ requirements the following apply to Class III watercourses:

- Soil deposited into Class III watercourses shall be removed prior to the completion of operations or October 15<sup>th</sup>, whichever comes first, except as noted in the winter operating plan.
- Per 916.4(c)(3) - Slash deposited into Class III watercourses shall be removed or stabilized prior to the completion of operations or October 15<sup>th</sup>, whichever comes first, except as noted in the winter operating plan. If slash is stabilized it shall be stabilized (such that the debris does not create the potential for diversion of the watercourse or the potential build up of excess sediment in amounts greater than found in the watercourse where there is no logging associated debris).

### Non-linear Aquatic Features:

#### Wet Areas

For specific locations of wet areas please refer to the Operators Maps located at the end of Section II. If a stable logging road or tractor road surface cannot be maintained at any of these locations during hauling or skidding operations overflow can be drained with a small temporary pipe or simply ditched to prevent rutting of the logging road or tractor road surface. When these logging road or tractor road segments are winterized the existing drainage patterns shall be maintained or re-established.

Wet areas outside of Class I or II WLPZs and Class III channel zones shall be given a 50 foot wide ELZ flagged with solid blue and solid orange flagging. Within this ELZ 50% total canopy shall be retained. The 50% total canopy shall be

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comprised of at least 25% of the pre-existing overstory conifers. The marking of trees shall conform to the local surrounding method (i.e. blue in selection, orange retention in clear cut areas). Wet areas within Class III channel zones shall be protected and flagged as segments of Class II-S, but will be mapped with a Wet Area symbol.

Tractor operations in the ELZs for wet areas are limited to the existing flagged tractor roads.

#### Seeps

A seep is a feature created by anthropogenic structures (e.g. truck road, tractor road, landing) which intercepts subsurface flow and may create wet ditches, possibly including pools, that may support hydrophytic vegetation. No protection is afforded to seeps. Typically they may be drained to ensure continued functionality and use of infrastructure of the ownership. Instances where a feature associated with the inside ditch of a road is substantial in size or habitat value, and its presence does not threaten the continued use and existence of the road, the feature may be called a wet area and afforded the appropriate protection.

#### Mapping of Springs, Wet Areas, and Seeps

Wet areas and springs located within harvest units shall be shown on the Operator's Maps. Any such features located along appurtenant roads may or may not be depicted on maps within the THP. Generally, mapping of springs and wet areas on appurtenant roads will be dependent upon any work which may be necessary at the site. Seeps will often be shown as map points because there will be work associated with such sites.

c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is there any tractor road watercourse crossings that require mapping per 14 CCR 1034(x)(7)	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will TRACTOR road watercourse crossings involve the use of a culvert? If YES, per 14 CCR 914.8[934.8, 954.8](e) state the minimum diameter and length for each culvert.	
Map Reference Points (MRP)	Culvert Diameter	Culvert Length
n/a	n/a	n/a

d. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is there a Master Agreement for Timber Operations (MATO) for Streambed Alteration Agreement (SAA) approved by the Department of Fish and Wildlife for any portion of this plan? MATO or SSA Number: If YES, provide a list of the crossings, water drafting sites, or other water features to be used during operations and provide the conditions to be utilized and or consider from the MATO or SAA as operational instruction to the LTO in SECTION II.
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#### MATO or SAA INSTRUCTIONS TO LTO

Specific water feature under MATO or SAA (crossings, drafting sites, etc.)	Conditions of MATO or SAA to be utilized at each specific feature

e. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this THP Review Process to be used to meet Department of Fish and Wildlife CEQA review requirements?  If YES, attach the required 1611 Addendum at the end of SECTION II and include any supporting information and analysis in SECTION III.  List instructions to the LTO in SECTION II for installation, protection measures, and mitigation measures, per THP from instructions or CDF Mass Mailing (07/02/1999) "Fish and Game Code 1611 Agreements and THP Documentation."
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**LTO INSTRUCTIONS: SEE OPERATOR'S TABLE NEAR THE END OF THP SECTION 2 FOR SPECIFIC REQUIREMENTS**

f. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are any exceptions provided under F & G code 1600 et seq., and made an enforceable part of plan?  If YES, per 14 CCR 923 [943,963](d) identify the exceptions and provide the enforceable standards as instructions to the LTO in SECTION II.
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g. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will new drainage structures and facilities on watercourses that support fish or listed aquatic species be constructed?</p> <p>If YES, per 14 CCR 914.8[934.8, 954.8](c) and 923.9 [943.9, 963.9](c). Structures and facilities shall be fully described and allow unrestricted passage of all life stages of fish or listed aquatic species, and natural movement of bedload. Provide operational instructions to the LTO in SECTION II.</p>
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Per 14 CCR 923.9(e) – The location of all NEW permanent constructed and reconstructed, and temporary logging road watercourse crossings, including those crossings to be abandoned or deactivated, SHALL be shown on a map. If the structure is a culvert intended for permanent use, the minimum diameter of the culvert and the method(s) used to determine the culvert diameter SHALL be specified in the plan,

h. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any NEW PERMANENT constructed logging road watercourse crossings requiring mapping?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are there any NEW RECONSTRUCTED logging road watercourse crossings requiring mapping?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any watercourse crossings to be ABANDONED or DEACTIVATED?

If YES, to the above questions these crossing shall be shown on a map in section II

Per 14 CCR 923.9(e) If any watercourse crossing has a culvert intended for permanent use, the minimum diameter of the culvert and the method(s) used to determine culvert diameter shall be stated in the plan.  
Per 14 CCR 923.9(f) permanent watercourse crossings that are constructed or reconstructed SHALL accommodate the estimated 100-year flood flow, including debris and sediment loads.

**SEE OPERATOR'S TABLE NEAR THE END OF THP SECTION 2 FOR SPECIFIC REQUIREMENTS AT MAP POINTS SHOWN ON THE THP MAP**

Method for sizing crossing:

**Rational Method** See 1611 Addendum at the end of THP Section 2 for calculations.

i. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is there any exception to flagging or otherwise identifying the location of any constructed or reconstructed road watercourse crossing prior to the pre-harvest inspection?
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**If YES, per 14 CCR 923.9(j) provide the explanation and justification in SECTION III.**

j. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will other methods for diversion of overflow at culvert crossings be utilized ( <u>other than critical dips</u> ) in the construction or reconstruction of logging road watercourse crossings which culverts?
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If YES, per 14 CCR 923.9(j) provide instructions to the LTO in SECTION II identifying the methods to be used for the diversion of overflow at watercourse crossings.

Per 14 CCR 923.9(k) watercourse crossings and associated fills and approaches SHALL be constructed and maintained to prevent diversion of stream overflow down the road, and to minimize fill erosion should the drainage structure become obstructed.

k. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are there any existing watercourse crossings that are located on logging roads within the logging area?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are there any watercourse crossing proposed for construction located on logging roads within the logging area?

If YES, per 14 CCR 923.9(k) identify the crossing and provide the methods to mitigate or address the diversion of stream overflow at the crossing.

**CROSSINGS ARE TO BE RECONSTRUCTED OR RECONSTRUCTED AS PER OPERATOR'S TABLE LOCATED NEAR END OF THP SECTION 2 AND THP MAP**

l. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will rock be used to stabilize crossing outlets?</p> <p>If YES, per 14 CCR 923.9(k) Rock used to stabilize outlets of crossings shall be adequately sized to resist mobilization of soil and significant sediment discharge. The range of rock size shall be described within the plan as instruction to the LTO in SECTION II indicate the range of the rock dimensions to be used.</p>
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**SEE OPERATOR'S TABLE NEAR END OF THP SECTION 2 FOR SITE SPECIFIC REQUIREMENTS**

## CalTREESTHP ITEMS 26– WATERCOURSES

m. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Watercourse crossing proposed to be reconstructed or removed, are there any significant volumes of sediment accumulated upstream of the watercourse crossing?</p> <p>If, YES per 14 CCR 923.9[943.9, 963.9](n) provide instructions to the LTO, in SECTION II, describing how the material will be stabilized, removed (the extent feasible), and in conformance with CDFW agreements, where applicable.</p>
n. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Do logging road watercourse crossing drainage structures and other erosion control features have I high historical fail rate within the project area?</p>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Do/will existing watercourse crossings utilizing a culvert have large amounts of fill material covering the culvert making up the crossing?</p> <p>If, YES per 14 CCR 923.9[943.9, 963.9](o) drainage structures and erosion control features shall be oversized, designed for low maintenance, reinforced, or removed before the completion of timber operations or as specified in the approved plan.</p> <p>Provide instruction to the LTO in SECTION II identifying these crossings, providing instruction of how these crossings will be treated.</p>
<p>Guidance on reducing the potential for failure at high risk watercourse crossings may be found in “Board of Forestry Technical Rule Addendum Number 5: Guidance on Hydrologic Disconnection, Road Drainage, Minimization of Diversion Potential, and High Risk crossings” (1<sup>st</sup> Edition, revised 10/27/14)</p>	
o. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will any logging road watercourse crossing be removed?</p> <p>If YES, provide instructions to the LTO, in SECTION II, describing the removal plan pursuant to the standards per 14 CCR 923.9[943.9, 963.9](p)(1)-(4)</p> <p style="text-align: center;"><b><u>SEE MAP POINT #3 IN THE OPERATOR’S TABLE NEAR END OF THP SECTION 2</u></b> <b><u>FOR SITE SPECIFIC REQUIREMENTS</u></b></p>
<b>FOR PLANS LOCATED WITHIN AN ASP WATERSHED</b>	
p. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will timber operations occur within a class I WLPZ?</p>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Will timber operations occur within a WLPZ adjacent to a restorable Class I watercourse?</p>
<p>If YES, Address per 14 CCR 916.9(f)(2)(A)-(E).</p> <p><b><u>Class I watercourse protection measures for confined channels:</u></b></p> <ul style="list-style-type: none"> <li>▪ Core Zone, within 30 feet of the watercourse transition line, no timber operations except for those listed in {14 CCR 916.9(e)(1)(A)-(F)}. No timber operations are proposed within any channel zone of a Class I watercourse except use of overhead cables used in yarding operations.</li> <li>▪ Inner Zone, 70 feet wide from the core zone, maintain a minimum 80% overstory canopy. Harvest trees are marked with blue paint.</li> <li>▪ The overstory canopy must be composed of at least 25% overstory conifer canopy post-harvest. If the above noted canopy levels are lacking in any given area timber is not marked for removal in that area, however it may be marked elsewhere in the zone.</li> <li>▪ Silvicultural methods are limited to single tree selection within the WLPZ.</li> <li>▪ WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.</li> <li>▪ Pursuant to 14 CCR 916.9(f)(2)(B)4, the thirteen (13) largest dbh conifers (live or dead) on each acre of the area that encompasses the Core and Inner Zones shall be retained. The retained conifers shall be selected from within the THP area that lies within 100 feet of the watercourse transition line.</li> <li>▪ Pursuant to 14 CCR 916.9(f)(2)(B)5, large trees that are most conducive to recruitment to provide for beneficial functions of riparian zones shall be given priority for retention.</li> <li>▪ Adjacent to uneven age silviculture areas, the WLPZ is flagged at a minimum width of 100 feet with blue/white striped “Lake and Watercourse Protection Zone” flagging in addition to solid orange flagging for greater visibility.</li> <li>▪ WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.</li> </ul>	

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Per 14 CCR 916.9(e)(1)(A)-(E) there shall be NO timber operations within a channel zone with the exception of those conditions listed within 916.9(e)(1)(A)-(E)	
<b>q.</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will there be any timber operations within the channel zone of any watercourse? If YES, Indicted the location and type of timber operations to be conducted and provide instructions to the LTO in SECTION II.  <b>No timber operations are proposed within the channel zone of a watercourse except use of overhead cables used in yarding operations and crossing repairs identified in the Operator's Table. Refer to the THP Maps and Operator's Table for location and site specific specifications.</b>
Per 14 CCR 923.1(h) NO logging road(s) or landing(s) shall be planned for construction or reconstruction in the CMZ or Core Zone of a Class I watercourse or within 150 feet of a watercourse transition line. with the exception of those conditions listed within 916.9(e)(1)(A)-(E) and 916.9[936.9, 956.9](v)	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will there be any logging road(s) or landing(s) constructed in the CMZ or Core Zone of a Class I?
If Yes, indicate the location and provide instructions to the LTO in SECTION II.	
Per 14 CCR 923.9[943.9, 963.9](d) Watersheds with listed anadromous salmonids. A description of all existing permanent Class I watercourse crossings shall be provided, where fish are always or seasonally present or fish passage is restorable.	
<b>r.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there existing permanent Class I crossings where fish are always present?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are there existing permanent Class I crossings where fish are seasonally present?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are there existing permanent Class I crossings where fish passage is restorable? <b>Crossing #3 is a failing culvert installed in a Class II watercourse. Since the time of installation this channel segment has been identified by the CDFW stream model as a Class I watercourse. The crossing is planned for removal as described in the Operator's Table.</b>
	If YES, provide a description of the existing permanent Class I watercourse crossings. Indicate in the description where the current crossing conditions may be adversely affecting fish passage and identify the proposed measures, if feasible, to address the conditions.  <b>MP 3</b> <b>A 72" diameter galvanized culvert drains flow from a Class 1 (CDFW Class 1 model) watercourse across the road at this location. The culvert suffered a structural failure and is partially collapsed at the 1st connector 20 feet from the culvert inlet resulting in erosion of the road fill and partially restricted stream flow. This stream segment was undoubtedly considered to be a Class 2 watercourse when this crossing was installed. This crossing is located as shown on the THP Map.</b> <b>Due to stream gradient, steep slopes and road alignment it would probably take a very expensive bridge installation to reconstruct this crossing for use by both logging trucks and migrating fish should they one day utilize this stream segment. The crossing is failing so it will be removed prior to completion of operations as described below and potential crossing reconstruction alternatives will be studied for future implementation. See the Map Point table for additional information.</b>  <b>MP31</b> <b>Class I crossing on Little North Fork (LNF) Gualala River. This crossing is configured as a ford crossing in an area of shallow gradients. A temporary bridge will be installed here to support hauling operations. This crossing is located as shown on the THP Map. This crossing is also to be used under THP 1-18-095MEN. When this road segment is winterized the crossing will remove crossing as per 14CCR 923.9(p). This crossing does not result in any impact to fish passage in this stream during any life stage. See the Map Point table for additional information.</b>  <b>MP 32</b> <b>Class 1 Crossing per CDFW Class I Stream Model. A steel bridge is in place and the crossing appears to be properly functioning. This crossing does not result in any impact to fish passage in this stream during any life stage. This crossing is located as shown on Appurtenant Roads Map 1.</b>

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**MP 33**

**Class 1 Crossing.** A steel bridge is in place and the crossing appears to be properly functioning. This crossing does not result in any impact to fish passage in this stream during any life stage. This crossing is located as shown on Appurtenant Roads Map 1.

**MP34**

**Class 1 Crossing per CDFW Class I Stream Model.** A steel bridge is in place and the crossing appears to be properly functioning. This crossing does not result in any impact to fish passage in this stream during any life stage. This crossing is located as shown on Appurtenant Roads Map 1.

**MP35**

**Class 1 Crossing per CDFW Class I Stream Model.** A steel bridge is in place and the crossing appears to be properly functioning. This crossing does not result in any impact to fish passage in this stream during any life stage. This crossing is located as shown on Appurtenant Roads Map 2.

**MP51**

**Class 1 Crossing.** A steel bridge is in place and the crossing appears to be properly functioning. This crossing does not result in any impact to fish passage in this stream during any life stage. This crossing is located as shown on Appurtenant Roads Map 2.

**MP57**

**Class 1 Crossing.** A steel bridge is in place and the crossing appears to be properly functioning. This crossing does not result in any impact to fish passage in this stream during any life stage. This crossing is located as shown on the THP Map.



### CalTREESTHP ITEMS 26– WATERCOURSES

s. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Will water drafting occur in association with the timber operations?</p> <p style="margin-left: 40px;">Water drafting for dust abatement may be secured from any the following sources:</p> <ul style="list-style-type: none"> <li>• Site B which entails an off-channel a sump dug into the gravel bar on So. Fork Gualala River</li> <li>• Non-jurisdictional water holes (ponds) not connected to stream system</li> <li>• Off site commercial sources</li> </ul> <p style="margin-left: 40px;">See below for additional information</p>
	<p>If YES, timber operations shall comply with Fish and Game Code Section 1600, et seq.</p>
t. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Is there a Fish and Game Code Section 1600 Mater Agreement for Timber Operations which addresses water drafting?</p> <p>If YES, provide the operational restrictions from the Master Agreement in SECTION II as instructions to the LTO.</p> <p><b>If NO</b>, describe the water drafting site conditions and proposed water drafting activity in the plan. Per 14 CCR 923.7[943.7, 963.7](l)(2)(A)-(F)(See Below)</p>
<p>Per 14 CCR 923.7[943.7, 963.7](l)(2)(A)-(F) the description of water drafting site conditions and proposed water drafting activity shall include:</p> <p>General description of proposed site:  <b>The drafting site (B) is the same location as was previously reviewed and approved under THP 1-16-094MEN and associated CDFW 1600 series agreement #1600-2016-0424-R1. This site (B) is also a planned water source for THP 1-19-00098MEN and 1-18-095MEN which are currently being reviewed by State agencies. The following information is provided pursuant to 923.7(l)(2).</b></p> <p><b>The drafting site (B) is on the South Fork of the Gualala River. The South Fork of the Gualala is contained in the San Andreas Fault in a 100-200 foot wide very low gradient alluvial channel. The alluvium has been estimated to be up to 175 feet deep in the center and tapering toward the edges. The summer wetted channel is approximately 25 feet wide. The substrate is composed exclusively of cobbles, small gravel, sand and silt. The stream banks have a 50% slope and transition onto the alluvial flats that can be up to 1000 feet wide and are 20 or 30 feet higher in elevation.</b></p> <p><b>In aggregate (all operations combined), GRT will use no more than 25,000 gallons per day on the South Fork of the Gualala (Site B).</b></p>	
<p>Watercourse Classification: <b>Class 1 watercourse</b></p>	
<p>Drafting parameters including:</p> <p><b>All water drafting for Timber Operations are subject to each requirement below unless the Department of Fish and Wildlife modifies the requirement in the Lake or Streambed Alteration agreement that authorized the drafting operation, or unless otherwise specified below:</b></p> <p><b>All intakes shall be screened to prevent impingement of juvenile fish against the screen. The following requirements apply to screens and water drafting on Class I waters:</b></p> <ul style="list-style-type: none"> <li>• Openings in perforated plate or woven wire mesh screens shall not exceed 3/32 inches (2.38 millimeters). Slot openings in wedge wire screens shall not exceed 1/16 inches (1.75 millimeters).</li> <li>• The screen surface shall have at least 2.5 square feet of openings submerged in water.</li> <li>• The drafting operator shall regularly inspect, clean, and maintain screens to ensure proper operation whenever water is drafted.</li> <li>• The approach velocity (water moving through the screen) shall not exceed 0.3 feet/second.</li> <li>• The diversion rate shall not exceed 300 gallons per minute.</li> </ul> <p><b>Approaches and associated drainage features to drafting locations within a WLPZ or Channel Zone shall be surfaced with rock or other suitable material to minimize generation of sediment.</b></p> <p><b>Barriers to sediment transport, such as straw wattles, logs, straw bales or sediment fences, shall be installed outside the normal high water mark to prevent sediment delivery to the Watercourse and limit truck encroachment.</b></p> <p><b>Water drafting trucks parked on streambeds, floodplains, or within a WLPZ shall use drip pans or other devices such as adsorbent or absorbent blankets, sheet barriers or other materials as needed to prevent soil and water contamination from motor oil or hydraulic fluid leaks.</b></p>	

## CalTREESTHP ITEMS 26– WATERCOURSES

**Bypass flows for Class I Watercourses shall be provided in volume sufficient to avoid dewatering the watercourse and maintain aquatic life downstream, and shall conform to the following standard:**

- 1. Bypass flows in the source Stream during drafting shall be at least 2 cubic feet per second.**
- 2. Diversion rate shall not exceed 10 percent of the surface flow.**
- 3. Pool volume reduction shall not exceed 10 percent.**

**The drafting operator shall keep a log recording for each time water is drafted: the date, total pumping time, pump rate, starting time, ending time, and volume diverted. Logs shall be filed with the Department of Forestry and Fire Protection at the end of seasonal operations and maintained with the plan record. This requirement may be modified in the approved plan that covers the water drafting, but only with concurrence from the Department of Fish and Wildlife.**

**Before commencing any water drafting operation, the RPF and the drafting operator shall conduct a pre-operations field review to discuss the water drafting measures in the plan and/or Lake or Streambed Alteration Agreement.**

**Month(s) of use - Water drafting may occur between May 1<sup>st</sup> and October 15<sup>th</sup> or as extended with CDFW concurrence**

**Estimated volume needed per day - In aggregate for all operations no more than 25,000 gallons per day will be drafted from Site B**

**Estimated maximum instantaneous drafting rate and filling time – 300 GPM**

**Other water drafting activities in same watershed –**

**Gualala Redwood Timber has historically drafted from four locations that lie between the confluence of the Wheatfield branch and the south fork of the Gualala and the confluence of the south fork and the north fork. North Gualala Water Company and Sea Ranch Water Co. get water from the Gualala River watershed via wells. The North Gualala Water Company wells are in the North Fork Gualala River. The Sea Ranch wells are one mile below Twin Bridges on the South Fork Gualala.**

**In addition to the drafting site (B), three small off channel ponds have been previously developed for water collection purposes. These ponds are not close enough to watercourses to affect their flow. These manmade ponds are considered to be non-jurisdictional relative to the CDFW 1600 process but any use will be consistent with all provisions of the THP.**

**Drainage area (acres) above point of diversion – 165,000 acres**

**Estimated:**

**Unimpeded stream flow – Average flow during the drafting period is estimated to be 7-12CFS at Site B.**

**Pumping rate – 300 GPM = 0.668 CFS**

**Drafting duration -15 Minutes**

**A discussion of the effects on aquatic habitat downstream from the drafting site(s) of single pumping operations, or multiple operations at the same location, and at other locations in the same watershed:**

**A hydrological study by O'Connor Inc. dated June 11, 2010 (previously submitted to CDFW) indicates that even at the rate of 25,000 gallons of water per day GRT would be using between .3% and .5% of the available daily flow on the south Fork of the Gualala. Any downstream effects would be insignificant on fish and wildlife.**

**Drafting logs for this location show that virtually no reduction of pool volume occurs even during periods of low bypass flows because of the large subsurface flow that is available.**

**Sea Ranch Water Co. pumps from wells during periods of high flows and stores the water in reservoirs.**

**14CCR923.7(l)(2)(G) Discuss proposed alternatives and measures to prevent adverse effects to fish and wildlife resources, such as reducing hose diameter; using gravity-fed tanks instead of truck pumping; reducing the instantaneous or daily intake at one location; describing allowances for recharge time; using other dust palliatives; and drafting water at alternative sites.**

**1. GRT has used magnesium chloride in the past as a dust palliative and may do so again.**

**2. Drafting takes place at sites closest to the roads needing dust abatement in order to be efficient and reduce overall impacts.**

**3. Alternative off channel water holes were previously dug, at the request of CDFW and with their approval, far from existing watercourses in order to provide an alternate source for water drafting. These water holes will continue to be used and will result in less water being drafted from the South Fork Gualala River gravel bar excavation at Site B.**

## CalTREESTHP ITEMS 26– WATERCOURSES

14CCR923.7(l)(2)(H) The methods that will be used to measure source stream flow prior to the water drafting operation and the conditions that will trigger stream flow to be measured during the operation.

The drafting site will have a downstream pool designated within the wetted channel that is easily observable from the drafting site but as far away as possible. This pool will be used to determine any flow changes from drafting activities. A water level gauge with at least 0.05-foot increments will be installed in this pool. An additional riffle crest monitoring station shall be placed downstream of each drafting monitoring site in August and September.

d) A pump test shall be conducted by an RPF at each site prior to commencement of any drafting activities and monthly thereafter. The purpose of this test is to establish if enough flow is present to allow for water drafting without significantly altering flow as measured by the wetted width of the channel. The test shall provide an estimate of the maximum change in water surface elevation as measured at the pool water level gauge that would result in a change of less than 0.10 foot to the wetted width at each monitoring site (the first downstream riffle crest).

## CalTREES THP ITEMS 27 – WLPZ IN-LIEU OR ALTERNATIVE PRACTICES

### ITEM #27– WLPZ IN-LIEU OR ALTERNATIVE PRACTICES

ITEM #27	WLPZ IN-LIEU OR ALTERNATIVES
<p>Per 14 CCR 916.1[936.1, 956.1] (In-Lieu Practices) – In rule sections where provision is made for site specific practices to be proposed by the RPF, approved by the Director and included in the THP in lieu of a standard rule, the RPF shall:</p> <ul style="list-style-type: none"> <li>Reference the standard rule</li> <li>Explain and describe each proposed practice</li> <li>Explain how it differs from the standard practice,</li> <li>Explain and justify how the protection provided by the proposed practice is at least equal to the protection provided by the standard rule.</li> <li>Identify the specific location where it shall be applied. 14 CCR 1034(x)(15) and (16)</li> </ul> <p>Per 14 CCR 916.6[936.6, 956.6] (Alternatives) – Alternative prescription for the protection of watercourses and lakes may be developed by the RPF or proposed by the Director on a site specific basis provided the following conditions are complied with and the alternative prescription will achieve compliance with the standards set forth in 14 CCR 916.3[936.3, 956.3] and 916.4[936.4, 956.4](b)</p> <p>The alternative prescription shall include in the THP information per 14 CCR 916.6[936.6, 956.6]a)(1)-(3)</p>	
<p><b>a.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the prohibition of the construction or use of tractor roads listed below?</p> <p>Per 14 CCR 916.3[936.3, 956.3](c) Timber operators shall not construct or use tractor roads in a Class I, II, III, IV watercourses, wet meadows and other wet areas unless explained and justified in the plan by the RPF.</p> <p>Except at:</p> <ul style="list-style-type: none"> <li>Prepared tractor crossing described in 14 CCR 914.8[934.8, 954.8](b)</li> <li>Class III watercourse crossings dry at the time of use</li> <li>At new and existing tractor road crossings approved as part of a Fish and Game Code Process (F&amp;GC 1600 et seq.)</li> </ul> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>
<p><b>b.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the retention of non-commercial vegetation bordering and covering meadows and wet areas?</p> <p>14 CCR 916.3[936.3, 956.3](d)</p> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>
<p><b>c.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the Directional felling of trees within any WLPZ away from the watercourse or lake?</p> <p>14 CCR 916.3[936.3, 956.3](e)</p> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>
<p><b>d.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the standard WLPZ(s) width(s) identified in 14 CCR 916.5[936.5, 956.5], Table I?</p> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>
<p><b>e.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the protection of Class IV watercourse(s)? 14 CCR 916.4[936.4, 956.4](c) and 916.5[936.5, 956.5], Table I</p> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>

## CalTREES THP ITEMS 27 – WLPZ IN-LIEU OR ALTERNATIVE PRACTICES

<p>f. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the exclusion of heavy equipment from the WLPZ except at those locations listed below?</p> <p>Per 14 CCR 916.4[936.4, 956.4(d)&amp;(f) – Heavy equipment shall not be used in timber falling, yarding, or site preparation within the WLPZ unless such use is explained and justified in the THP and approved by the Director.</p> <p>Except at:</p> <ul style="list-style-type: none"> <li>• Prepared tractor crossing described in 14 CCR 914.8[934.8, 954.8](b)</li> <li>• Class III watercourse crossings dry at the time of use</li> <li>• Existing road crossings</li> <li>• New tractor and road crossings approved as part of a Fish and Game Code Process (F&amp;GC 1600 et seq.)</li> </ul> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>
<p>g. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the establishment of ELZ(s) for Class III watercourses unless side slopes are, 30% and EHR is low? 14 CCR 916.4[936.4, 956.4](c)(1)</p> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>
<p>h. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the Retention of at least 50% of the overstory canopy in the WLPZ? 14 CCR 916.5[936.5, 956.5](e)“G”</p> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>
<p>i. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Are there any site-specific practices proposed in-lieu of, or as an alternative, to the Retention of at least 50% of the understory in the WLPZ? 14 CCR 916.5[936.5, 956.5](e)“G”</p> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p>
<p>j. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Are there any additional in-lieu or alternative practices proposed for watercourse or lake protection?</p> <p>If YES, provide operational information to the LTO under each item selected YES, in SECTION II. Provide the explanation and justification in SECTION III, (see table below)</p> <p><b>The planned In-Lieu practice is to allow for harvest, due to safety considerations (including cable clearance), unmarked trees within a WLPZ. No more than 3 trees within a 200 linear feet of WLPZ may be harvested under this exception. Compliance with all other applicable Forest Practice Rules is still required. The slash cleanout requirements of 14 CCR 916.3(b) are still in effect.</b></p> <p><b>Yard merchantable timber but leave unmerchantable (&lt;25% sound) logs in the woods so that the scarce timber resource is not wasted yet operations are conducted with a mindfulness that large woody debris does provide habitat for some wildlife species.</b></p> <p><b>Do not cut any trees designated for special wildlife retention with a painted “W”. If an unmarked tree greater than 30 inches DBH must be cut within 100 feet of a Class I or Large Class II stream channel consult with your Forester 1<sup>st</sup> so that it can be confirmed that the tree to be cut is not one of the 13 largest per acre which must be retained per regulation.</b></p>

# CalTREES THP ITEMS 28-29 – DOMESTIC WATER NOTIFICATIONS

## ITEM #28-29 – DOMESTIC WATER NOTIFICATIONS

ITEM #28	DOMESTIC WATER NOTIFICATIONS
	<p>Per 14 CCR 1032.10 – The THP submitter shall provide notice by letter to all other landowners within 1,000 feet downstream of the THP boundary whose ownership adjoins or includes a Class I, II, or IV watercourse(s) which receives surface drainage from the proposed timber operations.</p> <p>The notice shall request that the THP submitter be advised of surface domestic water use from the watercourse, within the THP or within 1,000 feet downstream of the THP boundary.</p> <p>When required to notice by letter, publication shall also be given one time by the THP submitter in a newspaper of general circulation in the area affected by the proposed project.</p> <p>Such letter and publication shall notify the adjoining party:</p> <ul style="list-style-type: none"> <li>• of the proposed timber operation</li> <li>• describe its legal location</li> <li>• identify the name, if any, of the watercourse it may affect</li> <li>• request a response by the property owner within ten days of the post-marked date on the letter or the date of publication as appropriate</li> </ul> <p>The RPF may propose, with justification and explanation, an exemption to such notification requirements, and the Director may agree.</p> <p>Copies of either notice, proof of service and publication, and any responses shall be attached to the THP (SECTION V) when submitted.</p> <p>If domestic use is noted, the plan shall contain mitigations necessary to protect domestic water use.</p> <p>THE PLAN SHALL NOT BE SUBMITTED UNTIL <u>TEN DAYS</u> AFTER THE ABOVE NOTIFICATION(s) HAVE BEEN COMPLETED</p>
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Are there any landowners with 1,000 feet downstream of the THP boundary whose ownership adjoins or includes a class I, II or IV watercourse(s) which receive surface drainage from the proposed timber operations?</p> <p>If YES, the requirement of 1032.10. Proof of letter notification shall be included in THP SECTION V.</p> <p>If NO, notification exemption request below need not be answered.</p>
b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Is an exemption to the notification requirements requested? (check notification requesting to be exempted)</p> <p><input type="checkbox"/> Letter</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Both</p> <p>If YES, provide the explanation and justification for the exemption request in SECTION III of the THP.</p>
c1. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Was any information received in response to domestic water notifications indicating domestic water supplies may be present within or downstream of the project area?</p>
c2. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>If YES, are there any additional mitigation measures needed beyond that required by standard watercourse and lake protection rules?</p> <p>If YES, provide the site-specific instruction to the LTO in SECTION II.</p>

## CalTREES THP ITEMS 28-29 – DOMESTIC WATER NOTIFICATIONS

ITEM #29	SENSITIVE WATERSHEDS
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Is any part of the THP area within a Sensitive Watershed as designated by the Board of Forestry and Fire Protection?</p> <p>If YES, identify the watershed and list the special rules, operating procedures or mitigation that will be used to protect the resources identified at risk.</p>

WATERSHED	SPECIAL RULE	MITIGATION MEASURES PROTECTING RESOURCES IDENTIFIED AT RISK

# CalTREES THP ITEM #30 – HAZARD REDUCTION

## ITEM #30 – HAZARD REDUCTION

ITEM #30HAZARD REDUCTION	
<p>Per 14 CCR 917, 937, 957 - Hazard reduction shall provide standards for the treatment of snags and logging slash in order to reduce fire and pest safety hazards in the logging area, to protect such area from potential insect and disease attack, and to prepare the area for natural or artificial reforestation while retaining wildlife habitat.</p> <p>Per 14 CCR 917.2, 937.2, &amp; 957.2 – The following standards shall apply to the treatment of slash created by timber operations within the plan area and on roads adjacent to the plan area.</p>	
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will slash treatment occur within 100 feet of the edge of the traveled surface of a PUBLIC road?
b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will slash treatment occur within 50 feet of the edge of the traveled surface of PERMANENT private roads open for public use where permission to pass is not required?
c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>[SOUTHERN only]</p> <p>Will slash treatment occur within 50 feet of the edge of the traveled surface of SEASONAL private roads open for public use where permission to pass is not required?</p>
	<p>If YES to any of the above, slash created or trees knocked down by road construction or timber operations shall be treated by: (Select all that apply)</p> <p><input checked="" type="checkbox"/> lopping for Fire hazard reduction per (14 CCR 895.1)</p> <p><input checked="" type="checkbox"/> Piling and burning per (14 CCR 917.2, 937.2, 957.2(a)(1-3))</p> <p><input type="checkbox"/> chipping</p> <p><input type="checkbox"/> burying</p> <p><input checked="" type="checkbox"/> removal</p> <p><input type="checkbox"/> Other (explain)</p> <p>Fire Hazard reduction is required within 100 feet of Fish Rock and Old Stage County Roads. Fire hazard reduction will be accomplished in accordance with Title 14 CCR 917.2.</p> <p>Within 100 feet of the edge of the traveled surface of public roads, slash created and trees knocked down by road construction or timber operations shall be treated by lopping for fire hazard reduction, piling and burning, chipping, burying or removal from the zone</p> <p>Slash to be treated by piling and burning shall be treated as follows:</p> <ul style="list-style-type: none"> <li>▪ Piles created prior to September 1 shall be treated not later than April 1 of the year following its creation, or within 30 days following climatic access after April 1 of the year following its creation.</li> <li>▪ Piles created on or after September 1 shall be treated not later than April 1 of the second year following its creation, or within 30 days following climatic access after April 1 of the second year following its creation.</li> </ul> <p><u>Lopping is defined in Title 14 CCR 895.1 as follows:</u>  <i>"Lopping For Fire Hazard Reduction" means severing and spreading slash so that no part of it generally remains more than 30 inches above the ground except where a specific rule provides another standard."</i></p>
d. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Are there any permanently located structures maintained for human habitation in the project area requiring slash treatment?</p> <p>If YES, identify distance slash treatment will occur and indicate the method of treatment</p> <p><input type="checkbox"/> Within 100 feet of permanent structure</p> <p><input type="checkbox"/> Removed</p> <p><input type="checkbox"/> Piled and burned per (14 CCR 917.2, 937.2, 957.2(a)(1-3))</p> <p><input type="checkbox"/> Other (explain)</p> <p><input type="checkbox"/> Between 100-200 feet of permanent structure</p> <p><input type="checkbox"/> Lopped for fire hazard reduction (per 14 CCR 895.1)</p> <p><input type="checkbox"/> removed</p>



**CalTREES THP ITEM #30 – HAZARD REDUCTION**

	<input type="checkbox"/> chipped <input type="checkbox"/> Piled and burned per (14 CCR 917.2, 937.2, 957.2(a)(1-3)) <input type="checkbox"/> Other (explain)
<b>e.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Has the RPF or Director determined there is an unusual fire risk or other hazard exists within the proposed project area?  If YES then lopping is required within 200-500 feet of permanent structures.
<b>f.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the RPF proposing any alternatives to treating slash along roads and within 200 feet of structures.  If YES, the RPF shall explain and justify in the plan how equal fire protection will be provided. The explanation and justification shall include:
	Description of the alternative treatment(s): Estimated amount / distribution of slash: Type of remaining vegetation: Topography: Climate: Degree of public exposure fire history: Provide a description of where the alternative will be used: (mapping area(s) is suggested)
<b>g.</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will piling and burning be used for hazard reduction?  If YES, refer to 14 CCR 917.2(a)(1-3). (select all that apply) <input checked="" type="checkbox"/> Piles created prior to September 1 shall be treated not later than April 1 of the year following its creation, or within 30 days following climatic access after April 1 of the year following its creation. <input checked="" type="checkbox"/> Piles created on or after September 1 shall be treated not later than April 1 of the second year following its creation, or within 30 days following climatic access after April 1 of the second year following its creation.
<b>h.</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the RPF proposing any alternatives to piling and burning from those required in 14 CCR 917.2(a)(1-2)?  If YES, the RPF shall provide and explanation and justification in the plan to be approved by the director.

**CalTREES THP ITEMS #32-35 BIOLOGICAL RESOURCES**

**ITEM # 32 – BIOLOGICAL RESOURCES**

**ITEM #32 LISTED PLANT or ANIMAL SPECIES INCLUDING HABITAT**

a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Are there any <u>ANIMAL SPECIES</u>, including their habitat(s), which are listed as rare, threatened or endangered under Federal or state law, or a sensitive species by the Board of Forestry associated with the THP area?</p> <p><b>If YES, identify the animal species and the provisions to be taken for the protection of the species.</b></p> <p>Habitat suitable for, coho, steelhead, grey wolf, California red legged frog and northern spotted owls is present within the Watershed Assessment Area. Please refer to THP Section IV and Section V for additional information. During the pre-operative meeting the RPF or his supervised designee will advise the LTO of potential habitat for species listed in Item 32, including nesting hawks and owls. If the LTO should find any of these species they shall stop operations immediately and contact the supervising RPF.</p>
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**Listed and Sensitive Animal Species Table**

Animal Species	Species type Mammal / bird / reptile / amphibia / fish / Invertebrate	FEDERAL Threatened / endangered /	STATE Threatened / endangered / candidate	BOF Sensitive	
Coho salmon	Fish	Endangered	Endangered	No	

**Coho salmon Protection measures**

The plan is located in a watershed with Coho salmon and steelhead trout. Chinook salmon are not common in this watershed but they would benefit from the same protection measures afforded steelhead trout and coho salmon. The plan incorporates all required measures relative to sediment and temperature concerns which would be the primary vectors which could affect these species relative to this timber harvest. Please refer to THP Sections II for specific measures taken relative to stream temperature (shade canopy retention), sediment production (harvest methods and erosion control measures taken) and LWD supply (uneven age silviculture and WLPZ prohibitions. Also, see THP Section 4 for additional discussion of watershed issues.

Steelhead trout	Fish	Threatened	Threatened	No	
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**Steelhead trout Protection measures**

Same as coho salmon protection measures – see discussion above

Northern Spotted Owl	Bird	Threatened	Threatened	Yes	
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**Northern Spotted Owl (NSO) Protection Measures**

- The THP area is within the range of the Northern Spotted Owl and contains habitat suitable for Northern Spotted Owls. There are known NSO activity center(s) within 0.7 miles of the plan boundary as shown on the THP Maps and discussed in the NSO addendum located in THP Section 5. This species is Federally and State listed as "Threatened". See NSO addendum for Additional information.
- In order to meet the requirements of 14 CCR 919.9 the plan will comply with 14 CCR 919.9(e) using Scenario 4 of the Northern Spotted Owl Take Avoidance Scenarios 2/1/2008.

The plan complies with Scenario 4 in the following ways:

- The THP area contains suitable habitat for NSOs.
- There are known NSO activity centers within 0.7 miles of the plan boundary.
- NSO surveys will be conducted and will be in conformance with the most current USFWS survey protocol and the Northern Spotted Owl Take Avoidance Analysis and Guidance for California Coast Forest District Attachment A, dated 11/01/2019.
- The proposed project is in compliance with the USFWS Northern Spotted Owl Take Avoidance Analysis - Coast Redwood Region, November 1, 2019.

For the year or years of operation on the THP area, timber operations shall not commence until protocol surveys have been completed for the current, and/or immediately preceding, survey period; the results have been provided to CAL FIRE; and the results have been incorporated into the THP. Surveys shall be submitted prior to each year of operations. Once a consistency determination has been made, survey results shall be valid until 2/1 of the following year. NSO survey information shall be submitted to CDFW concurrently upon submittal to CAL FIRE. The survey data shall be submitted to CTP@wildlife.ca.gov.

**VI. Post-Harvest Habitat Retention and Typing**

Within the 0.7 mile radius (985 acres) of each Activity Center please use the following:

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## CalTREES THP ITEMS #32-35 BIOLOGICAL RESOURCES

- 1) Retain habitat to maximize attributes desirable for NSO.
- 2) Retain at least 500 acres of suitable (Nesting/Roosting/Foraging) NSO habitat, post-harvest, as follows:
  - a) Retain 200 acres of Nesting/Roosting Habitat within a 0.7 mile radius of the Activity Center consisting of:
    - i) 100 acres of the 200 acres of Nesting/Roosting habitat retained should be contiguous, or contiguous as possible with the Activity Center.
    - ii) An additional 100 acres of Nesting/Roosting with in the 0.7 mile radius:
      - (1) If the second 100 acres of Nesting/Roosting habitat is also contiguous with the Activity Center, or within the same drainage, operations should retain a minimum of 66% of the pre-harvest basal area per acre of trees at least 11" DBH.
      - (2) If the remaining 100 acres of Nesting/Roosting habitat is not contiguous with the Activity Center, retain at least Nesting/Roosting habitat.
  - b) Retain at least 300 acres of Suitable NSO habitat, post-harvest, of at least Foraging quality.
- 3) Remove no more than 1/3 of the remaining suitable habitat in excess of 500 acres within 0.7 mile of an Activity Center during the life of the timber operations.

### VII. Road Use

To avoid take of NSO from noise disturbance (see U.S. Fish and Wildlife Service 2006) road use within 0.25 mile (1,320 feet) of a NSO Activity Center during the breeding season is prohibited until July 10, unless:

- 1) Non-nesting, or nesting failure at the Activity Center has been determined by a Activity Center Search (2011 NSO Protocol) conducted on or after May 15th, or;
- 2) The Activity Center is within 165 feet of major highway that typically has continuous traffic year around (Hwy 1, 36, 101, 128, 299, etc.) and the appurtenant road is not within 165 feet of the Activity Center.
- 3) After July 9th until the end of the breeding season road use within the 100-acre core is restricted to existing road use, maintenance and map point work.

### VIII. Timber Harvest Operations

A 0.25 mile seasonal restriction on timber operations (except for road use after July 9th) applies to every known NSO Activity Center during the breeding season, unless it is determined via a site monitoring visit, "Activity Center Search" (2011 NSO Protocol), that NSO are not nesting, or nesting failure has occurred. If it cannot be determined whether NSO are nesting, or nesting failure cannot be determined, the 0.25 mile seasonal restriction stays in effect for timber operations until after July 31st.

For all known Activity Centers, timber operations should adhere to the following recommendations:

- 1) Within the 100-acre Core Area polygon of an NSO Activity Center:
  - a) Outside the breeding season, limited timber operations (i.e., road use and maintenance, map point work, tail-hold placements, use of existing skid roads, and loading) may be conducted, provided no trees >11 inches DBH are cut or removed by the operations, and no logs are yarded through the Core Area.
  - b) During the NSO breeding season, timber operations (including use of roads before July 9th), are not allowed within the 100-acre Core Area polygon, except as allowed in subsections 4 and 5, below.
- 2) Timber Operations outside the 100-acre Core Area polygon, but within 0.25 mile of an NSO Activity Center:
  - a) Outside the breeding season, timber operations may be conducted.
  - b) During the breeding season, no timber operations should proceed unless protocol surveys do not detect nesting NSOs.
- 3) For all NSO Activity Centers, prior to May 15th (until the required May 15 or later survey is completed):
  - a) Timber operations (except helicopter yarding or staging) may be conducted only on those THP areas >0.25 mile from the Activity Center.
  - b) Helicopter yarding and staging may occur only on those THP areas >0.5 mile from the Activity Center.
- 4) For NSO Activity Centers where reproductive status has been determined to be non-nesting or failed nesting:
  - a) Limited timber operations (road use and maintenance, map point work, use of existing skid roads, tail-hold placements and loading) may be conducted within the 100-acre Core Area polygon of the Activity Center provided no trees >11 inches DBH are cut or removed by the operations, and no logs are yarded through the Core Area.
  - b) Full timber operations, including helicopter yarding and staging, may be conducted within 0.25 mile but not within the 100-acre core polygon of the Activity Center. Helicopter fly-overs shall not occur within 1000 ft. of the Activity Center.
- 5) For NSO Activity Centers, where reproductive status has been determined to be nesting:
  - a) For Activity Centers where fledging status has not been determined, timber operations may be conducted only on those THP areas that are >0.25 mile from the Activity Center until the end of the breeding season.
  - b) Helicopter yarding and staging may occur only on those THP areas >0.5 mile from the Activity Center.
- 6) For NSO Activity Centers, where fledging status has been determined (either nest failure or fledglings have left the Core Area):
  - a) Full timber operations, including helicopter yarding and staging, may be conducted within 0.25 mile but not within the 100-acre

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core polygon of the Activity Center. Helicopter fly-overs shall not occur within 1000 feet of the Activity Center.  
b) Limited timber operations (road use and maintenance, map point work, use of existing skid roads, tail-hold placements and loading) may be conducted within the 100-acre core polygon of the Activity Center, provided no trees >11 inches DBH are removed by the operations, and no logs are yarded through the Core Area.

7) For any NSO Activity Center, regardless of reproductive status:

a) If NSO move to a new location (>1,000 feet from the historical activity center), the appropriate protection measures should be provided to each activity center, or consultation with NSO review agencies should occur to evaluate the status of what may be multiple activity centers.

<b>Red Tree Vole</b>	<b>Mammal</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>CDFW Species of Special Concern</b>
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**Red Tree Vole Protection Measures**

If, during the conduct of timber operations RTV (aka Sonoma tree vole) nests are located the LTO is to contact the Plan Submitter and comply with the following enforceable standards:

Retain the potential nest tree and adjacent screening trees (those with crowns touching the potential nest tree).

Avoid falling any other nearby conifers into the potential nest tree.

<b><u>Townsend's Big-eared Bat</u></b>	<b>Mammal</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>CDFW Species of Special Concern</b>
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**Townsend's Big-eared Bat Protection Measures**

The THP area is within the range of the Townsend's big-eared bat (COTO) and to our knowledge **does not contain**, suitable roost habitat within the plan or within 400 feet of the plan on the timberland owner's property. There are no known roosting colonies within or adjacent to (within 400 feet) the plan boundary.

Suitable maternity and/or hibernaculum colony roost habitats include abandoned mines, caves, abandoned anthropogenic structures, and trees ( $\geq 42$  inch dbh) with a basal hollow opening of  $\geq 2$  square feet and an interior ceiling extending above the height of the entrance and at least 3-ft above the ground.

If a new tree with the above described characteristics is discovered with a roosting COTO timber operations will stop until the tree has been reviewed by plan biologists, the CDFW and CAL FIRE are notified, and the plan is amended to contain appropriate mitigation.

<b>Osprey</b>	<b>Bird</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	
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**Osprey Protection Measures**

No Osprey have been detected within the THP area. If Osprey are observed actively nesting (not just flying around) in the THP area during the period of March 1 to August 1, halt operations within 150 feet of the suspected nest site and notify the Plan Submitter.

Operations within 150 feet shall not commence until appropriate measures have been taken by the Plan Submitter and accepted or approved by the Department. The LTO, TLO and Plan Submitter are hereby advised to comply with the following regulation concerning osprey: FGC 3505. It is unlawful to take, sell, or purchase any egret, osprey, bird of paradise, goura, numidi, or any part of such a bird.

<b>Great Blue Heron</b>	<b>Bird</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>PART OF PLAN</b>
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**Great Blue Heron Protection Measures**

No rookeries are known to exist in the THP area. If Herons are noted nesting in the THP area during the period of March 15 to July 15, halt operations within 150 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and approved by the Department. If five or more nests are noted in close proximity to one another halt all operations within 300 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and accepted or approved by the Department.

<b>Bald Eagle</b>	<b>Bird</b>	<b>Delisted</b>	<b>Endangered</b>	<b>Yes</b>	<b>OCT 15 2020</b>
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**Bald Eagle Protection Measures**

This species is not known to occur in the THP area. If you notice one of these species nesting in the THP area, **halt all operations** within 372 feet of the suspected nesting site, other than standard logging road use for egress, and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and accepted or approved by the Department.

<b>Peregrine Falcon</b>	<b>Bird</b>	<b>Delisted</b>	<b>Endangered</b>	<b>Yes</b>	
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**Peregrine Falcon Protection Measures**

This species is not known to occur in the THP area. If you notice one of these species nesting in the THP area, halt all operations within 372 feet of the suspected nesting site, other than standard logging road use for egress, and notify the Plan Submitter. Do not

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recommence operations until appropriate measures have been taken by the Plan Submitter and accepted or approved by the Department.					
<b>Golden Eagle</b>	<b>Bird</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	
<p align="center"><b>Golden Eagle Protection Measures</b></p> <p>This species is not known to occur in the THP area. If you notice this species nesting in the THP area halt all operations, other than standard logging road use for egress, within 333 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and accepted or approved by the Department.</p>					
<b>Great Egret</b>	<b>Bird</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	
<p align="center"><b>Great Egret Protection Measures</b></p> <p>No Great Egret rookeries are known to exist in the THP area. If Egrets are noted nesting in the THP area during the period of March 15 to July 15, halt operations within 150 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and approved by the Department. If 5 or more nests are noted in close proximity to one another, halt all operations within 300 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and accepted or approved by the Department. The LTO, TLO and Plan Submitter are hereby advised to comply with the following regulation concerning osprey: FGC 3505. It is unlawful to take, sell, or purchase any egret, osprey, bird of paradise, goura, numidi, or any part of such a bird.</p>					
<b>Northern Goshawk</b>	<b>Bird</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	
<p align="center"><b>Northern Goshawk Protection Measures</b></p> <p>This species is not known to occur in the THP area. If you notice this species nesting in the THP area halt all operations, (other than one time logging road use for egress) within 263 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and accepted or approved by the Department.</p>					
<b>Gray Wolf</b>	<b>Mammal</b>	<b>Endangered</b>	<b>Endangered</b>	<b>No</b>	
<p align="center"><b>Gray Wolf Protection Measures</b></p> <p>The plan and assessment areas include habitat for Gray Wolves. One June 4th, 2014 the gray wolf became listed as endangered under the California Endangered Species Act (CESA). According to CDFW information titled CALIFORNIA'S KNOW WOLVES PAST AND PRESENT (February 2020) the gray wolf is moving back into northeastern California in small but increasing numbers. Two wolf packs identified as the Lassen and Shasta packs are known. The Shasta pack is thought to be no longer operating as a pack. Other wolves fitted with tracking collars that are known to be or known to have been in California include (OR7), (OR25), (OR54, now deceased), (OR44) and (OR59, now deceased). Other contemporary wolf sightings have been reported in Siskiyou, Modoc, Lassen, and Plumas counties. Although unlikely to occur, protection measures are in the next sentence should a gray wolf be observed in the plan area. If any wolves are sighted, rendezvous locations identified or an active den is observed all vegetation disturbing activities within 200' will be suspended and the RPF will consult with DFW and CalFire. The results of the consultation will be amended into the plan.</p>					
<b>Marbled Murrelet (MAMU)</b>	<b>Bird</b>	<b>Threatened</b>	<b>Endangered</b>	<b>Yes</b>	<b>Green Bridge Habitat Area</b>
<p><b>Unoccupied potential marbled murrelet habitat is located near the western terminus of the appurtenant road adjacent to the Green Bridge which is a local landmark. This area was identified as potentially being suitable MAMU habitat in THP 1-16-094MEN. CDFW issued Marbled Murrelet Consultation 16-R1-CTP-041-MAMU for the Green Bridge Habitat Area. A copy of this consultation letter is included in THP Section V for reference. Mitigation measures for this THP will be the same as stated in the above referenced consultation letter.</b></p> <p>Until completed MAMU surveys<sup>8</sup> result in "no detection" and CDFW concurrence is amended to the THP, the following MAMU protection measures apply:</p> <ol style="list-style-type: none"> <li>1. No vegetation modification shall occur within 300 feet of the Green Bridge Habitat Area.</li> <li>2. Based on the ambient noise level <i>Moderate</i><sup>7</sup>, during the MAMU breeding season (March 23 through September 15) take avoidance shall include the following measures: <ul style="list-style-type: none"> <li>• Anticipated project generated sounds exceeding 90 dBs or a "Very High"<sup>9</sup> sound level shall not occur within 330 feet of the Green Bridge Habitat Area during the MAMU breeding season (March 24 through September 15).</li> <li>• Anticipated project generated sounds exceeding 90 dBs or a "Very High"<sup>9</sup> sound level shall not occur within 825 feet of the Green Bridge Habitat Area during the Dawn Period (between 2 hours before sun rise and 2 hours after sunrise) and Dusk Period (between 2 hours before sunset and 2 hours after sunset) within the MAMU breeding season (March 24 through September 15).</li> </ul> </li> </ol>					

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- Anticipated project generated sounds exceeding 100 dBs or a "Extreme"<sup>9</sup> sound level shall not occur within 825 feet of the Green Bridge Habitat Area during the MAMU breeding season (March 24 through September 15).
  - Anticipated project generated sounds exceeding 100 dBs or a "Extreme"<sup>9</sup> sound level shall not occur within 1320 feet of the Green Bridge Habitat Area during the Dawn Period (between 2 hours before sun rise and 2 hours after sunrise) and Dusk Period (between 2 hours before sunset and 2 hours after sunset) within the MAMU breeding season (March 24 through September 15).
3. Along the public road and all appurtenant roads within 825 feet of the Green Bridge Habitat Area, THP related vehicles shall adhere to the following during the MAMU nesting season (March 24 to September 15):
- Do not exceed 15 miles per hour within 2 hours prior to dawn and 2 hours after dusk;
  - Restrict stopping to the minimum required in order to safely use public and connecting appurtenant roads;
  - Prohibit log load band tightening.

<sup>7</sup> USFWS Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northern California - 8-14-2006-2887 dated July 31, 2006.

<sup>8</sup> Protocol survey consistent with Mack, D. E., W. P. Ritchie, S. K. Nelson, E. Kuo-Harrison, P. Harrison and T. E. Hamer. 2003. Method for surveying marbled murrelets in forests: a revised protocol for land management and research, Pacific Seabird Group Technical Publication Number 2.

<sup>9</sup> Anticipated sound levels may be assessed using USFWS Estimating the Effects of Auditory and Visual Disturbance b Northern Spotted Owls and Marbled Murrelets in Northern California - 8-14-2006-2687 dated July 31, 2006, Table 2. Some Common Sound Levels for Equipment Activity.

<b>Foothill Yellow Leg Frog</b>	<b>Amphibian</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>CDFW Species of Special Concern</b>
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## **Foothill Yellow Leg Frog Protection Measures**

- Watercourse crossing construction/reconstruction shall not occur at road work points, where free water is present in the watercourse, unless a visual encounter survey is conducted of all life stages of FYLF by a qualified individual (knowledgeable with all life stages of FYLF and similar species) for three pool/riffle/run segments, where appropriate, OR from 100-ft above to 100-ft below the watercourse crossing, occurring no more than two weeks prior to crossing construction/reconstruction work at such sites.
- Log hauling shall not occur on roads in Watercourse & Lake Protection Zones during the winter period where saturated soils exist that result in ponded water present on the running surface of roads (small puddles or water-filled potholes do not constitute ponded water), unless a visual encounter survey for juvenile and adult FYLF by a qualified individual has occurred not more than two weeks prior to log hauling on such roads. This protection measure does not restrict routine road maintenance activities as otherwise allowed for in the plan.
- Visual encounter surveys shall consist of walking the entire survey reach and visually scanning in the water and on the banks. Any frog species encountered shall be recorded.
- If FYLF are present in either a or b above, operations at these locations shall not occur unless consultation with CDFW is completed to develop site-specific mitigation measures to amend into the plan, or the Timberland owner receives an Incidental Take Permit for FYLF.
- In perennial and intermittent Class I & II watercourse with free water present, all trees shall be felled away from the watercourse. In ephemeral Class III watercourses with free water present, all trees shall be felled away from the watercourse where feasible.

<b>California Red-Legged Frog</b>	<b>Amphibian</b>	<b>Threatened</b>	<b>Threatened</b>	<b>No</b>	<b>PART OF PLAN RECEIVED</b>
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## **California Red-Legged Frog**

### **Seasonal Definitions:**

*Wet Season* starts with the first frontal rain system depositing a minimum of 0.25 inches of rain after October 15 and ends on April 15. *Dry Season* starts April 16 and ends with the first frontal rain system as described under "Wet Season" above.

### **Suitable California Red-legged Frog (CRF) Habitat:**

Permanent water (Class I or II watercourses or ponds/wetlands) that is more than 12 inches deep;

Permanent water (Class I or II watercourses or ponds/wetlands) that is less than 12 inches deep if suitable shelter/cover habitat is available, e.g. over-hanging vegetation, emergent vegetation, over-hung banks, root wads, rock piles, log debris, etc.

Permanent wet ground (e.g. seep) with vegetative or other cover.

Intermittent water that persists through late July.

Suitable habitat within 2 miles of harvest units or in units and harvest activities planned within 300 feet of suitable habitat during the wet season.

For Class III watercourses, when dry, maintain a 30 foot no cut buffer, trees felled away from watercourse.

For Class II watercourse and intermittent ponds/wetlands that meet the definition of suitable habitat, where water is present, 300 foot no cut buffer; where dry, 30 foot no cut buffer, no equipment within 75 feet of annual high water mark, trees felled away from suitable habitat.

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Class I watercourse and permanent ponds/wetlands that meet the definition of suitable habitat- no cutting and no equipment within 300 feet of this suitable habitat.

Suitable habitat within 2 miles of harvest units or in units and harvest activities planned within 300 feet of suitable habitat during the dry season.

All suitable habitat must maintain a 30 foot no-cut buffer; no equipment within the no-cut buffer except on existing roads; trees felled away from suitable habitat.

The following operational conditions must also be included:

Pile burning must be outside the 300 foot buffer of suitable habitat

No herbicide used allowed within 300 feet of suitable habitat except for direct application to stumps (cut surfaces)

Roads and landings, if constructed, must be at least 300 feet from suitable habitat, and construction must occur in the dry season.

Water drafting from suitable habitat (for dust abatement) must be done with a hose placed in a bucket in a deep pool. The bucket must be covered by <1 inch mesh, and the mouth of the hose must be covered by ¼ inch mesh.

<b>Western Pond Turtle</b>	<b>Mammal</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>CDFW Species of Special Concern</b>
The western pond turtle is a freshwater turtle that generally occurs in permanent ponds, lakes, wetlands, and slowing-moving sections of rivers and streams. This subspecies occurs in Washington, Oregon, and California. The pond turtle buries its eggs on shore but spends most of its life in or near aquatic habitat. Suitable aquatic habitat must include structures such as partially submerged logs for basking sites. Due to WLPZ buffer protections around the isolated pond and watercourses no significant adverse impacts are expected to this species. If pond turtles are encountered during timber operations avoid causing injury.					

b. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any <u>PLANTS</u> , including their habitat(s), which are listed as rare threatened or endangered under Federal or state law, or a sensitive species by the Board of Forestry associated with the THP area? <b>If YES, identify the animal species and the provisions to be taken for the protection of the species.</b>
	Botanical surveys shall be completed in reference to the most current CDFW protocol (2018). After protocol-level botanical surveys are completed, a botanical report shall be submitted, at least 5 days prior to operations, to CalFire / CDFW and amended into the THP.
	Mitigation measures to be used in the event that sensitive plant species are subsequently located within the plan area are as follows: (1) Avoidance strategy of no timber operations within 50 feet and no disruption of local hydrologic processes (changes in ground surface that either increase or decrease surface flow or ponding at the plant occurrence) or (2) If avoidance is not feasible then CDFW will be consulted and alternative measures will be developed by the RPF and described in the plan or (3) Timber operations on existing facilities (e.g. roads and landings) that do not remove or bury individual plants will not be restricted by the avoidance protection measure. The buffer will be flagged with "Special Treatment" flagging or other type of flagging which is not used for any other purpose in the harvest area. Any resulting CDFW consultation mitigations shall be amended into the plan.

**Plant Species Table**

Plant Species	FEDERAL Threatened / endangered	STATE Rare / Threatened / Endangered	CRPR (1A, 1B, 2A, 2B, 3, 4)	Protection measures
None				

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**NON-LISTED SPECIES IMPACTS**

c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there any NON-LISTED species which will be significantly impacted by the operation? <b>If yes, identify the species and the provisions to be taken for the protection of the species.</b>
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**Non-Listed Species Table**

Species	Species type Mammal / bird / reptile / amphibia / fish / Invertebrate	Protection measures
All Birds	Bird	The LTO, TLO and Plan Submitter are hereby advised to comply with the following regulation concerning all bird species: FGC 3503 It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

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**CalTREES THP ITEMS #32-35 BIOLOGICAL RESOURCES**

<b>Birds in the orders Falconiformes or Strigiformes</b>	<b>Bird</b>	The LTO, TLO and Plan Submitter are hereby advised to comply with the following regulation concerning raptors: FGC 3503.5. It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. Also note that THP page 61 has the following requirements: <i>"During the pre-operative meeting the RPF or his supervised designee will advise the LTO of potential habitat for species listed in Item 32, including nesting hawks and owls. If the LTO should find any of these species they shall stop operations immediately and contact the supervising RPF."</i>
<b>Various</b>	<b>Various</b>	<b>See discussion below</b>

**ITEM # 35 –OTHER WILDLIFE PROTECTION REQUIRED BY FOREST PRACTICE RULES**

a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are there any other provisions for wildlife protection required by the rules? If YES, describe.
<p><b>Description:</b> Wildlife protection measures are woven into the fabric of modern forest practice rules across many parameters. Increased use of uneven age management retains wildlife habitat across the forested landscape. Where even aged management is called for strict size limits and systems utilizing temporal and spatial buffers insure a diversity of wild life habitat is consistently available for forest dwelling species. Site preparation activities impactive to many forms of wildlife such as broadcast burning have become rare in the region. Similarly aquatic wildlife species benefit from extensive networks of harvest design parameters employed to limit impacts to watershed resources. These design factors include shade canopy retention adjacent to watercourses, a suite of erosion control measures that function to limit sedimentation, seasonal harvest restrictions designed to minimize impacts and establishment of buffer zones adjacent to streams.</p>	

<b>SOTHERN FOREST DISTRICT ONLY</b>	
<b>Per 14 CCR 959.15(a) Protection of Wildlife Habitat</b>	
(a) Where present at time of timber harvest, 400 sq. ft. basal area of oak per 40 acres should be retained and protected, giving preference to deciduous oaks. Oaks should be retained on areas designated by CDFW as deer migration corridors, holding areas, or key ranges when consistent with good forestry practices.	
b. <input type="checkbox"/> Yes <input type="checkbox"/> No	Will timber operations occur where the pre-harvest stand consists of 400 square feet basal area of oak per 40 acres?
c. <input type="checkbox"/> Yes <input type="checkbox"/> No	Is any of the proposed harvest area within an area designated by CDFW as deer migration corridors, holding areas, or key ranges?
If YES, to one or both questions above provide direction to the LTO identifying oak retention shall occur to comply with 14 CCR 959.15. Provide site-specific instructions to the LTO indicating how Oak tree protection will be accomplished.(if necessary provide a map of these areas for the LTO)	

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# CalTREES THP ITEMS #32-35 BIOLOGICAL RESOURCES

## ITEM # 33 – SNAGS

ITEM #33	SNAGS
Per 14 CCR 919 – Timber operations shall be planned and conducted to maintain suitable habitat for wildlife species as specified by the provisions of Article 9 of the Forest Practice Rules.	
Within the logging area all snags shall be retained to provide wildlife habitat with the exception of snags for safety reasons Per 14 CCR 919.1 (a)-(f)	
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Are there any snags which must be felled for fire protection or safety reasons? <b>NOTE TO LTO AND CREW: If safety is improved by cutting a snag then cut it. If safety is improved by not cutting a snag then don't cut it. <u>Remain mindful of your personal safety.</u></b>
b. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will snags over 20 feet in height and 16 inches dbh be felled within 100 feet of a main ridge that is suitable for fire suppression? If YES, ridge shall be delineated on a THP map.
c. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will snags over 20 feet in height and 16 inches dbh be felled within 100 feet of all public roads, permanent roads, landings and railroads? (select all that apply) <input type="checkbox"/> Public road(s) <input type="checkbox"/> Permanent road(s) <input type="checkbox"/> Landing(s) <input type="checkbox"/> Railroad(s)
d. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Will snags be felled where federal and state safety laws and regulations require the felling of snags?
e. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will snags be felled within 100 feet of structures maintained for human habitation?
f. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will merchantable snags be felled in any location as provided for in the plan?
g. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will snags be felled as required to control insect or disease concerns?

## ITEM # 34 – LATE SUCCESSIONAL FOREST STANDS

ITEM #34	LATE SUCCESSIONAL FOREST STANDS
a. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are any Late Successional Forest stands proposed for harvest? If YES, describe measures to be implemented by the LTO to avoid long-term significant adverse effects on fish, wildlife and listed species known to be primarily associated with late successional forests.
Describe:	

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**Cal TREES THP ITEMS #36-38 – CULTURAL RESOURCES / GROWTH AND YIELD / SPECIAL INSTRUCTIONS**

**ITEM # 36 – CULTURAL RESOURCES**

<b>ITEM #36 ARCHAEOLOGICAL / HISTORICAL</b>	
a. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Has an archaeological / historical survey been made for the THP area?
b. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Has a current archaeological / historical records check been conducted for the THP area?
c. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>During pre-field research and surveys were archaeological or historical sites identified within the plan area?</p> <p><b>If YES, THIS INFORMATION IS CONFIDENTIAL AND NOT AVAILABLE TO REVIEW AGENCIES, OTHER THAN CAL FIRE, AND THE GENERAL PUBLIC.</b></p> <p><b>RPF is advised to complete the Confidential Archaeological Addendum (CAA) and place in Section VI of the THP.</b></p>

**ITEM # 37 – GROWTH AND YIELD INFORMATION**

<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Has any inventory or growth and yield information designated "TRADE SECRET" been submitted in a separate confidential envelope in Section VI of this THP?</p> <p><b>If YES, THIS INFORMATION IS CONFIDENTIAL AND NOT AVAILABLE TO REVIEW AGENCIES.</b></p>
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**ITEM # 38 – SPECIAL INSTRUCTIONS OR CONSTRAINTS**

CONDITION Flagging codes / water drafting / paint colors etc.	INSTRUCTION
Pink THP Boundary Ribbon	Harvest Area Boundary and also Property Line
Blue Ribbon	Class 3 Centerline
Blue/White Stripe WLPZ hung with Orange	WLPZ
Yellow Skid Trail Ribbon	Flagged Skid Trail
Orange Truck Road Ribbon	Truck Road Alignment
Yellow/Black Stripe	Harvest Method Boundary
Green Flagging "Silviculture Boundary"	Silviculture Boundary
Orange Paint	Retention Trees (Don't Cut)
Blue Paint	Harvest Trees (Available to cut)

**PER CalFire Requirement: NSO survey information shall be submitted to CDFW concurrently upon submittal to CAL FIRE. The survey data shall be submitted to [CTP@wildlife.ca.gov](mailto:CTP@wildlife.ca.gov).**

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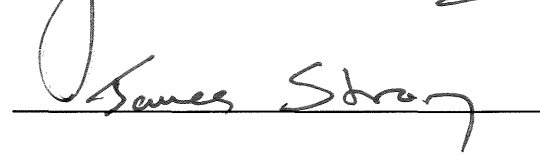
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**DIRECTOR OF FORESTRY AND FIRE PROTECTION**

This Timber Harvesting Plan conforms to the rules and regulations of the Board of Forestry and Fire Protection and the Forest Practice Act:

By:

(Signature)

  
\_\_\_\_\_  
  
\_\_\_\_\_

(Printed Name)

February 25, 2021

(Date)

Forester II

(Title)



## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
1	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 36" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. A critical dip is in place.</p> <p><b>Treatment:</b> Maintain or re-establish critical dip when this road segment is winterized.</p>
		Displayed on Map:				
2	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 24" diameter galvanized culvert drains flow from a Class 3 watercourse across the road at this location. The culvert inlet is partially blocked. A critical dip is in place.</p> <p><b>Treatment:</b> When this road segment is winterized inspect and clear culvert inlet to insure proper function and maximum capacity of the drainage structure.</p>
		Displayed on Map:				
3	Watercourse Crossing	Yes	Yes	Yes	Yes	<p><b>Description:</b> A 72" diameter galvanized culvert drains flow from a Class 1 (CDFW Class 1 model) watercourse across the road at this location. The culvert suffered a structural failure and is partially collapsed at the 1st connector 20 feet from the culvert inlet resulting in erosion of the road fill and partially restricted stream flow. This stream segment was undoubtedly considered to be a Class 2 watercourse when this crossing was installed.</p> <p><b>Treatment:</b> Use crossing and rehabilitate by removing crossing at end of 1st seasons use (prior to October 15th). Place straw bales in eroded area as necessary to prevent soil from entering the stream / culvert prior to removal. Remove crossing as per 14CCR 923.9(p):            (1) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed.            (2) The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge. Due to steep slopes excavated surfaces may end up &gt;65% slope at this crossing.</p>
		Displayed on Map:				

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
4	Watercourse Crossing	Yes	Yes	Yes	Yes	<p><b>Description:</b> A 36" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. The culvert inlet has plugged as a result of a small debris flow and intermittent stream flow is eroding the road surface. The culvert condition was inspected at the outlet and found to suffer from perforations due to abrasion and rust.</p> <p><b>Treatment:</b> Install a 36 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2. Insure critical dip is in place when this road segment is winterized. Rock armor critical dip across road surface with 2"d50 road aggregate. Rock armor outfall of critical dip with 12"D50 rock armor. 20 CUY of rock will minimize potential for sediment yield prior to road maintenance should the culvert inlet become blocked.</p>
5	Watercourse Crossing	Yes	Yes	Yes	Yes	<p><b>Description:</b> A 24 inch diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. The culvert was found to suffer from perforations due to rust.</p> <p><b>Treatment:</b> Install a 30 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2. Insure critical dip is in place when this road segment is winterized.</p>
6	Watercourse Crossing	Yes	No	Yes	No	<p><b>Description:</b> A short spur is to be constructed to provide access for cable yarding. A minor Class III watercourse channel bisects the road alignment. The road is located on a topographic bench. Gentle terrain combined with infrequent use of this spur road make the location suitable for a temporary crossing.</p> <p><b>Treatment:</b> When this road segment is winterized, remove crossing as per 14CCR 923.9(p): (1) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed. (2) The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge.</p>

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
7	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 30 inch diameter galvanized culvert drains flow from a Class 3 watercourse across the road at this location.</p> <p><b>Treatment:</b> Maintain or re-establish critical dip when this road segment is winterized.</p>
9	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> Flow from a Class 3 watercourse is drained across the road through a rock armored dip at this location. The crossing appears to be properly functioning.</p> <p><b>Treatment:</b> Maintain or re-establish existing drainage pattern when this road segment is winterized.</p>
10	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> Flow from a Class 3 watercourse is drained across the road through a rock armored dip at this location. The crossing appears to be properly functioning.</p> <p><b>Treatment:</b> Maintain or re-establish existing drainage pattern when this road segment is winterized.</p>
11	Swale Crossing	No	No	Yes	No	<p><b>Description:</b> There is evidence of overland flow crossing the road at this location but a continuous channel was not found downslope of this area. This site is located on gentle terrain.</p> <p><b>Treatment:</b> When this road segment is winterized, remove crossing as per 14CCR 923.9(p): (1) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed. (2) The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge.</p>

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Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
12	Watercourse Crossing	Yes	No	Yes	No	<p><b>Description:</b> The crossing at this location has been previously pulled. All excavated areas are heavily re-vegetated and stable in appearance. Road fill has been pulled back onto the road prism at the crossing approaches. Access through this point is needed to support cable yarding operations.</p> <p><b>Treatment:</b> Install a 30 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2. Insure critical dip is in place when this road segment is winterized. On slopes &gt;50% do not sidecast fill to re-establish operable road surface.</p>
		Displayed on Map:				
13	Watercourse Crossing	Yes	No	Yes	No	<p><b>Description:</b> Flow from a Class 3 watercourse is drained across the road through a rock armored dip at this location. The crossing appears to be properly functioning. Alignment appears to be tight for loaded trucks.</p> <p><b>Treatment:</b> If modification of the road alignment is necessary to support safe passage of commercial truck traffic do so without sidecasting earthen materials below the road and re-establish existing drainage pattern when this road segment is winterized.</p>
		Displayed on Map:				
14	Watercourse Crossing	Yes	No	Yes	No	<p><b>Description:</b> Flow from a Class 3 watercourse is drained across the road through a rock armored dip at this location. The crossing appears to be properly functioning. Vertical alignment appears to be tight for loaded trucks.</p> <p><b>Treatment:</b> If modification of the road alignment is necessary to support safe passage of commercial truck traffic do so without sidecasting earthen materials below the road and re-establish existing drainage pattern when this road segment is winterized.</p>
		Displayed on Map:				
15	Watercourse Crossing	Yes	No	Yes	No	<p><b>Description:</b> Flow from a Class 3 watercourse is drained across the road through a rock armored dip at this location. The crossing appears to be properly functioning. This road segment is narrow and heavily outsloped. The operating surface of the road may require reconfiguration to provide for safe passage of loaded trucks.</p> <p><b>Treatment:</b> If modification of the road alignment is necessary to support safe passage of commercial truck traffic do so without sidecasting earthen materials below the road and re-establish existing drainage pattern when this road segment is winterized.</p>
		Displayed on Map:				

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
16	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 48" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. At the culvert outfall water drops approximately 5 feet onto native soils creating some scour over the years since the culvert was installed.</p> <p><b>Treatment:</b> Add rock armor to culvert outfall to minimize potential for additional scouring ; 10 CUY rubble rock 24" (d50). Approximately 150 feet north of the crossing is a roadside seep. If the roadside seep is saturating the road surface at the time of hauling drain flow into ditch line and install temporary pipe (4" x 20' typical) to dewater the road and create a stable operating surface.</p>
						Displayed on Map:
17	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> Flow from a Class 3 watercourse and a roadside seep is drained across the road through a rock armored dip at this location. The crossing appears to be properly functioning.</p> <p><b>Treatment:</b> If the road surface is wet at the time of hauling drain flow into ditch line and install temporary pipe (4" x 20' typical) to create a stable operating surface. Maintain or re-establish existing drainage pattern when this road segment is winterized.</p>
						Displayed on Map:
18	Watercourse Crossing	Yes	No	Yes	No	<p><b>Description:</b> The road crosses a Class II watercourse channel configured as a ford on a broad topographic bench. The crossing was dry when observed in mid April 2020. The crossing is suitable for continued use as a temporary crossing.</p> <p><b>Treatment:</b> When this road segment is winterized, remove crossing as per 14CCR 923.9(p): (1) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed. (2) The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge.</p>
						Displayed on Map:

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
19	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 36" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. Both the inlet and outlet are rock armored. A critical dip is in place and offset approximately 60 feet.</p> <p><b>Treatment:</b> Maintain or re-establish critical dip when this road segment is winterized.</p>
20	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 18" diameter galvanized culvert drains flow from a Class 3 watercourse across the road at this location.</p> <p><b>Treatment:</b> Maintain or re-establish critical dip when this road segment is winterized.</p>
21	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> Overflow from a road side seep forms the head of a Class III crossing at this location. An 18 inch galvanized steel culvert provides drainage at the crossing. The culvert is moderately rusted but no perforations were noted and the culvert is properly functioning.</p> <p><b>Treatment:</b> Maintain or re-establish critical dip when this road segment is winterized.</p>
22	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 24" diameter galvanized culvert drains flow from a wet area and a Class 3 watercourse across the road at this location.</p> <p><b>Treatment:</b> Maintain or re-establish critical dip when this road segment is winterized.</p>
23	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> Seasonal flow from a Class 3 watercourse drains across the road over a rock armored ford at this location. Drainage provisions are properly functioning.</p> <p><b>Treatment:</b> Maintain or re-establish existing drainage pattern when this road segment is winterized.</p>

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Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
24	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 24" diameter galvanized culvert drains flow from a wet area and a Class 3 watercourse across the road at this location.</p> <p><b>Treatment:</b> If the roadside seep is saturating the road surface at the time of hauling drain flow into ditch line and install temporary pipe (4" x 20' typical) to dewater the road and create a stable operating surface. Maintain or re-establish critical dip when this road segment is winterized.</p>
						Displayed on Map:
25	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 36" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location.</p> <p><b>Treatment:</b> Maintain or re-establish critical dip when this road segment is winterized.</p>
						Displayed on Map:
26	Diversion	Yes	Yes	Yes	Yes	<p><b>Description:</b> Seasonal flow from a Class III watercourse and a wet area were diverted by past skidding operations at this location. Flow is currently meandering across a broad terrace. The earthquake fault has caused some disrupted drainage patterns here but the downslope stream channel remains apparent here.</p> <p><b>Treatment:</b> Correct diversion by draining upslope flow back into channel as flagged in the field. Mulch bare mineral soil in the ELZ when winterizing this area.</p>
						Displayed on Map:

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# Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
27	Watercourse Crossing	Yes	No	Yes	No	<p><b>Description:</b> The crossing at this location has been previously pulled. All excavated areas are heavily re-vegetated and stable in appearance. Access though this point is needed to support cable yarding operations. Continued use of the crossing with a temporary configuration seems appropriate here.</p> <p><b>Treatment:</b> When this road segment is winterized, remove crossing as per 14CCR 923.9(p): (1) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed. (2) The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge.</p>
		Displayed on Map:				
28	Wet Area Crossing	No	No	Yes	No	<p><b>Description:</b> A roadside seep is located here.</p> <p><b>Treatment:</b> If the road surface is wet at the time of hauling drain flow into ditch line and install temporary pipe (4" x 20' typical) to create a stable operating surface. Maintain or re-establish existing drainage pattern when this road segment is winterized.</p>
		Displayed on Map:				

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Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
29	Watercourse Crossing	Yes	No	Yes	No	<p><b>Description:</b> The road crosses a Class III watercourse channel on a broad topographic bench. The crossing has been pulled and the feature is stable. The crossing was dry when observed in early May 2020. The crossing is suitable for continued use as a temporary crossing.</p> <p><b>Treatment:</b> When this road segment is winterized, remove crossing as per 14CCR 923.9(p): (1) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed. (2) The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge.</p>
30	Watercourse Crossing	Yes	No	Yes	No	<p><b>Description:</b> A short spur is to be constructed to provide access for cable yarding. A minor Class III watercourse channel bisects the road alignment twice. The road is located on a topographic bench. The 1st crossing is at the head of the drainage. The second crossing just below is located on a topographic bench.</p> <p><b>Treatment:</b> When this road segment is winterized, remove crossings as per 14CCR 923.9(p): (1) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed. (2) The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge.</p>

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
31	Watercourse Crossing	Yes	No	Yes	No	<p><b>Description:</b> Class I crossing on Little North Fork (LNF) Gualala River. This crossing is configured as a ford crossing in an area of shallow gradients. A temporary bridge will be installed here to support hauling operations. This crossing is also to be used under THP 1-18-095MEN.</p> <p><b>Treatment:</b> When this road segment is winterized, remove crossing as per 14CCR 923.9(p): (1) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed. (2) The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge.</p>
		Displayed on Map:				
32	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> Class 1 Crossing per CDFW Class I Stream Model. A steel bridge is in place and the crossing appears to be properly functioning. This crossing does not result in any impact to fish passage in this stream during any life stage. This crossing is located as shown on Appurtenant Roads Map 1.</p> <p><b>Treatment:</b> No treatment required.</p>
		Displayed on Map:				
33	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> Class 1 Crossing. A steel bridge is in place and the crossing appears to be properly functioning. This crossing does not result in any impact to fish passage in this stream during any life stage. This crossing is located as shown on Appurtenant Roads Map 1.</p> <p><b>Treatment:</b> No treatment required.</p>
		Displayed on Map:				

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
34	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> Class 1 Crossing per CDFW Class I Stream Model. A steel bridge is in place and the crossing appears to be properly functioning. This crossing does not result in any impact to fish passage in this stream during any life stage. This crossing is located as shown on Appurtenant Roads Map 1.</p> <p>Displayed on Map:</p> <p><b>Treatment:</b> No treatment required.</p>
35	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> Class 1 Crossing per CDFW Class I Stream Model. A steel bridge is in place and the crossing appears to be properly functioning. This crossing does not result in any impact to fish passage in this stream during any life stage. This crossing is located as shown on Appurtenant Roads Map 2.</p> <p>Displayed on Map:</p> <p><b>Treatment:</b> No treatment required.</p>
36	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A Class III watercourse flows across the road through a dry ford at this location which is shown on Appurtenant Roads Map 1.</p> <p>Displayed on Map:</p> <p><b>Treatment:</b> Maintain or re-establish existing drainage pattern when this road segment is winterized.</p>
37	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A steel bridge is in place over a Class II watercourse and the crossing appears to be properly functioning. This crossing is located as shown on Appurtenant Roads Map 1.</p> <p>Displayed on Map:</p> <p><b>Treatment:</b> No treatment required.</p>
38	Watercourse Crossing	Yes	Yes	Yes	Yes	<p><b>Description:</b> A 48" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. The culvert condition was inspected at the outlet and found to suffer from perforations due to abrasion and rust. This crossing is located as shown on Appurtenant Roads Map 1.</p> <p>Displayed on Map:</p> <p><b>Treatment:</b> Install a 48 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2. Insure critical dip is in place when this road segment is winterized.</p>

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
39	Ditch Relief	No	No	Yes	No	<p><b>Description:</b> The 18 inch diameter galvanized ditch relief culvert at this location was inspected at and found to suffer from perforations due to abrasion and rust. This crossing is located as shown on Appurtenant Roads Map 1.</p> <p>Displayed on Map:</p> <p><b>Treatment:</b> Install a new 18 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2.</p>
40	Ditch Relief	No	No	Yes	No	<p><b>Description:</b> The 18 inch diameter galvanized ditch relief culvert at this location was inspected at and found to suffer from perforations due to abrasion and rust. This crossing is located as shown on Appurtenant Roads Map 1.</p> <p>Displayed on Map:</p> <p><b>Treatment:</b> Install a new 18 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2.</p>
41	Watercourse Crossing	Yes	Yes	Yes	Yes	<p><b>Description:</b> Two permanent culverts are installed at this location. The more southerly installation is a properly functioning 30" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. The culvert condition was inspected and found to have a significant rust line but in proper working order. The northern installation is a 60 inch diameter galvanized metal culvert which was found to suffer from perforations due to abrasion and rust. These installations are located as shown on Appurtenant Roads Map 1.</p> <p>Displayed on Map:</p> <p><b>Treatment:</b> Southerly installation; no treatment required at this time. Northern installation; Install a new 60 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2.</p>
42	Ditch Relief	No	No	Yes	No	<p><b>Description:</b> The 18 inch diameter galvanized ditch relief culvert at this location was inspected at and found to suffer from perforations due to abrasion and rust. This crossing is located as shown on Appurtenant Roads Map 1. This crossing is the same as map point 3 in THP 1-18-095MEN.</p> <p>Displayed on Map:</p> <p><b>Treatment:</b> Install a new 18 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2.</p>

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**Map Point Table**

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
43	Ditch Relief	No	No	Yes	No	<b>Description:</b> The 18 inch diameter aluminum ditch relief culvert at this location was inspected found to be properly functioning. This crossing is located as shown on Appurtenant Roads Map 1.  <b>Treatment:</b> No treatment required at this time.
						Displayed on Map:
44	Ditch Relief	No	No	Yes	No	<b>Description:</b> The 18 inch diameter galvanized ditch relief culvert at this location was inspected found to be partially filled with sediment. This crossing is located as shown on Appurtenant Roads Map 1.  <b>Treatment:</b> Clean inlet and outlet to restore proper function and maximize capacity. If the culvert is found to be rusted out, install a new 18 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2.
						Displayed on Map:
45	Watercourse Crossing	Yes	Yes	Yes	Yes	<b>Description:</b> A 48" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. The culvert condition was inspected and found to suffer from perforations due to abrasion and rust. This crossing is located as shown on Appurtenant Roads Map 1. This crossing is the same as map point 2 in THP 1-18-095MEN.  <b>Treatment:</b> Install a 60 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2. Insure critical dip is in place when this road segment is winterized.
						Displayed on Map:
46	Watercourse Crossing	No	No	Yes	No	<b>Description:</b> A properly functioning 30" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. The culvert condition was inspected and found to have a significant rust line but in proper working order. This crossing is located as shown on Appurtenant Roads Map 2.  <b>Treatment:</b> No treatment required at this time.
						Displayed on Map:

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
47	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 48" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. This crossing is located as shown on Appurtenant Roads Map 2.</p> <p><b>Treatment:</b> No treatment required at this time.</p>
		Displayed on Map:				
48	Watercourse Crossing	Yes	Yes	Yes	No	<p><b>Description:</b> A 24" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. The culvert condition was inspected and found to suffer from perforations due to abrasion and rust. This crossing is located as shown on Appurtenant Roads Map 2.</p> <p><b>Treatment:</b> Install a 36 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2. Insure critical dip is in place when this road segment is winterized.</p>
		Displayed on Map:				
49	Ditch Relief	No	No	Yes	No	<p><b>Description:</b> The 18 inch diameter galvanized ditch relief culvert at this location was inspected found to be partially filled with sediment. This crossing is located as shown on Appurtenant Roads Map 2.</p> <p><b>Treatment:</b> Clean inlet and outlet to restore proper function and maximize capacity. If the culvert is found to be rusted out, install a new 18 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2.</p>
		Displayed on Map:				
50	Ditch Relief	No	No	No	No	<p><b>Description:</b> The 12 inch diameter galvanized ditch relief culvert at this location was inspected at and found to suffer from perforations due to abrasion and rust. This crossing is located as shown on Appurtenant Roads Map 2.</p> <p><b>Treatment:</b> Install a new 18 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2.</p>
		Displayed on Map:				

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
51	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> Class 1 Crossing. A steel bridge is in place and the crossing appears to be properly functioning. This crossing does not result in any impact to fish passage in this stream during any life stage.</p> <p><b>Treatment:</b> No treatment required at this time.</p>
		Displayed on Map:				
52	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 60" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. It appears that a heavy gravel bedload is currently moving through this system from an upslope unstable area. This crossing is located as shown on Appurtenant Roads Map 2.</p> <p><b>Treatment:</b> Maintain or re-establish critical dip when this road segment is winterized.</p>
		Displayed on Map:				
53	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 60" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. This crossing is located as shown on Appurtenant Roads Map 2.</p> <p><b>Treatment:</b> Maintain or re-establish critical dip when this road segment is winterized.</p>
		Displayed on Map:				
54	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 60" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. This crossing is located as shown on Appurtenant Roads Map 2.</p> <p><b>Treatment:</b> No treatment required at this time.</p>
		Displayed on Map:				
55	Ditch Relief	No	No	Yes	No	<p><b>Description:</b> The 18 inch diameter galvanized steel ditch relief culvert at this location was inspected found to be properly functioning. The culvert appears to receive little flow.</p> <p><b>Treatment:</b> No treatment required at this time.</p>
		Displayed on Map:				

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
56	Ditch Relief	No	No	Yes	No	<p><b>Description:</b> The 18 inch diameter galvanized ditch relief culvert at this location was inspected and the inlet was found to be partially blocked with sediment and debris.</p> <p><b>Treatment:</b> Clean inlet and outlet to restore proper function and maximize capacity. If the culvert is found to be rusted out, install a new 18 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2.</p>
		Displayed on Map:				
57	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> Class 1 Crossing. A steel bridge is in place and the crossing appears to be properly functioning. This crossing does not result in any impact to fish passage in this stream during any life stage.</p> <p><b>Treatment:</b> No treatment required at this time.</p>
		Displayed on Map:				
58	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 48" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location.</p> <p><b>Treatment:</b> No treatment required at this time.</p>
		Displayed on Map:				
59	Ditch Relief	No	No	Yes	No	<p><b>Description:</b> The 18 inch diameter galvanized ditch relief culvert at this location was inspected and the outlet appears to be blocked.</p> <p><b>Treatment:</b> Clean inlet and outlet to restore proper function and maximize capacity. If the culvert is found to be rusted out, install a new 18 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2.</p>
		Displayed on Map:				
60	Watercourse Crossing	Yes	Yes	Yes	Yes	<p><b>Description:</b> A 24" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. The culvert condition was inspected and found to suffer from perforations due to abrasion and rust.</p> <p><b>Treatment:</b> Install a 36 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2. Insure critical dip is in place when this road segment is winterized.</p>
		Displayed on Map:				

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
61	Ditch Relief		No	Yes	No	<p><b>Description:</b> The 18 inch diameter galvanized ditch relief culvert at this location was inspected and the outlet was found to be deformed and the culvert heavily rusted but without perforations. This crossing is located as shown on Appurtenant Roads Map 1.</p> <p><b>Treatment:</b> Install an 18 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2.</p>
			Displayed on Map:			
62	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A steel bridge is in place over what appears to be a Class II watercourse. The crossing appears to be properly functioning. This crossing is located as shown on Appurtenant Roads Map 2.</p> <p><b>Treatment:</b> No treatment required at this time.</p>
			Displayed on Map:			
63	Ditch Relief	No	No	Yes	No	<p><b>Description:</b> The 18 inch diameter galvanized steel ditch relief culvert at this location was inspected found to be properly functioning. This crossing is located as shown on Appurtenant Roads Map 2.</p> <p><b>Treatment:</b> No treatment required at this time.</p>
			Displayed on Map:			
64	Watercourse Crossing	Yes	Yes	Yes	No	<p><b>Description:</b> A 24" diameter galvanized culvert drains flow from a Class 2 watercourse across the road at this location. The culvert condition was inspected and found to suffer from perforations due to abrasion and rust. This crossing is located as shown on Appurtenant Roads Map 1. This crossing is the same as map point 4 in THP 1-18-095MEN.</p> <p><b>Treatment:</b> Install a either a rock armored ford or a 24 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2. Insure critical dip is in place when this road segment is winterized.</p>
			Displayed on Map:			

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
65	Wildlife Site	No	No	Yes	No	<p><b>Description:</b></p> <p>Roadside seep identified in 1-18-095MEN as CRLF habitat. Do not drain the wet inboard ditch.</p> <p>Presently the inboard ditch collects a number cut bank seeps along a +/-80-foot stretch of permanent all-season rocked road. When receiving ditch flow exceeds the ground infiltration rate overflow from the ditch drains across the road via a shallow constructed dip. Over a recent time period (i.e., likely since the last harvest operation) a small pool /has formed along the inboard ditch line at this point. The pool is 18 feet in length, 24 to 36 inch in width, and 0 to 8 inches in depth. The pool covers over with duckweed during the summer dry season and presently provides seasonal refugium habitat for one or more California red-legged frogs (CRLF). Until it can be determined that no CRLFs are present in the pool area, the pool shall be protected and no drainage alterations or drain improvements are to be made to the road surface.</p> <p><b>Treatment:</b></p> <p>The following measures will be implemented to protect the frog and the present habitat, while allowing continued use of the road during harvest operations:</p> <ol style="list-style-type: none"> <li>1) A rigid culvert half round or a temporary bridge structure with a minimum height clearance of 12 inches shall be installed over the road surface where seep flow is weeping across the road surface. This crossing structure shall simply be placed on the existing road bed with no digging or alterations to that would impact the adjacent pool. The placed structure is intended to provide free passage of frogs below a drivable road surface while the road is in use for timber operations.</li> <li>2) Clean 3/4 crushed river run gravel is to be used at the bridge approaches and/or as fill to cover the culvert to create a vented ford road passage.</li> <li>3) To discourage any frogs from entering onto the road and to funnel frog movement to the built underpass, a fine mesh vinyl construction fence shall be installed along each side of the drivable road surface for distance of at least 100 feet.</li> <li>4) Upon completion of harvest operations, the frog protection structures will be carefully dismantled so as not to disturb the pool area and the gravel will be spread out over the surface away from the road dip.</li> </ol>

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
66	Ditch Relief	No	No	Yes	No	<p><b>Description:</b> The 18 inch diameter galvanized ditch relief culvert at this location was inspected and the outlet was found to be heavily rusted with the outlet elevated due to past erosion of the fill slope below. Rolling dips previously installed in the road surface may have diminished the concentration of flow into this location. This culvert is located as shown on Appurtenant Roads Map 1.</p> <p><b>Treatment:</b> Install a new 18 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2. Be sure to place culvert outlet at based of fill. A better location is available just upslope. Based on the extent of past erosion install rock armor at culvert outlet. (10 CUY 6" d50)</p>
						<p>Displayed on Map:</p>
67	Ditch Relief	No	No	Yes	No	<p><b>Description:</b> The 18 inch diameter galvanized ditch relief culvert at this location was inspected and was found to suffer from perforations due to abrasion and rust. This crossing is located as shown on Appurtenant Roads Map 1.</p> <p><b>Treatment:</b> Install an 18 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2.</p>
						<p>Displayed on Map:</p>
68	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 24" diameter galvanized culvert drains flow from a Class 3 watercourse across the road at this location. The culvert condition was inspected and found to have a significant rust line but in proper working order.</p> <p><b>Treatment:</b> No treatment required at this time.</p>
						<p>Displayed on Map:</p>
69	Watercourse Crossing	No	No	Yes	No	<p><b>Description:</b> A properly functioning 24" diameter galvanized culvert drains flow from a Class 3 watercourse across the road at this location.</p> <p><b>Treatment:</b> No treatment required at this time.</p>
						<p>Displayed on Map:</p>

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## Map Point Table

Map Point	Feature	1603 Required	ECP Site	Section II Site	SEPES*	Description/Treatment
70	Ditch Relief	No	No	Yes	No	<p><b>Description:</b> The 24 inch diameter galvanized ditch relief culvert at this location was inspected found to be filled with sediment. This crossing is located as shown on Appurtenant Roads Map 2.</p> <p><b>Treatment:</b> Clean inlet and outlet to restore proper function and maximize capacity. If the culvert is found to be rusted out, install a new 24 inch diameter culvert consistent with Standard Construction Diagrams located near the end of THP Section 2.</p>

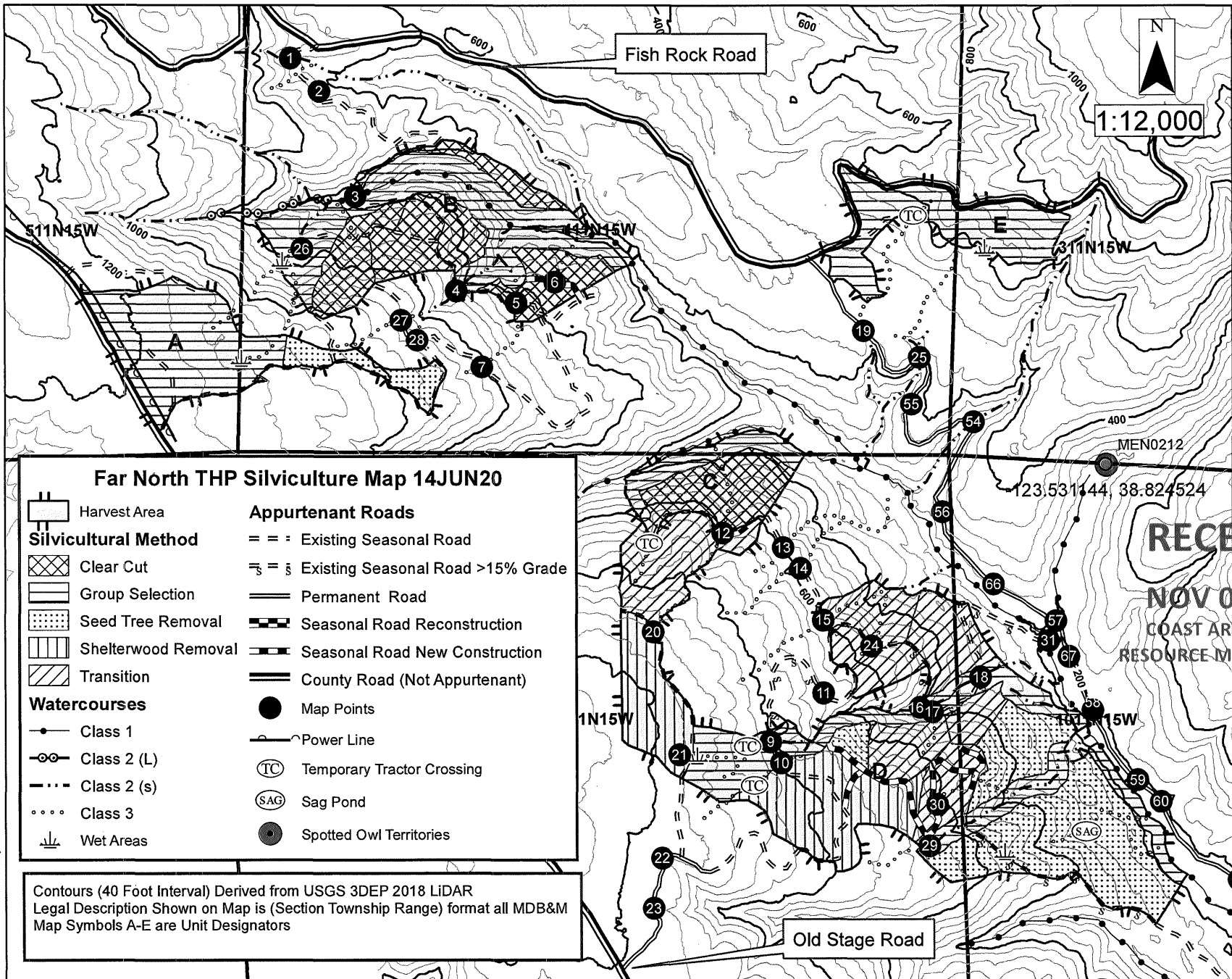
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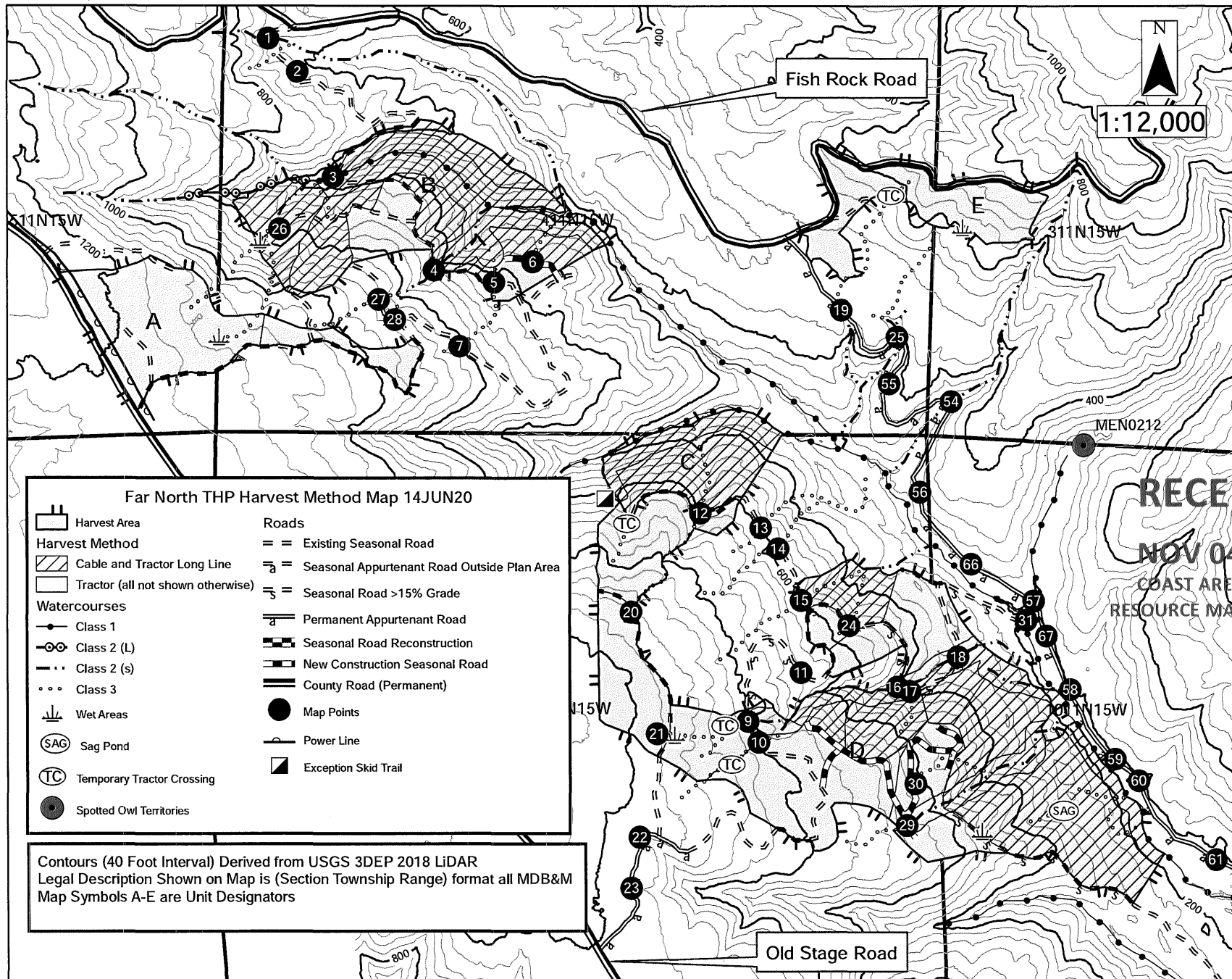
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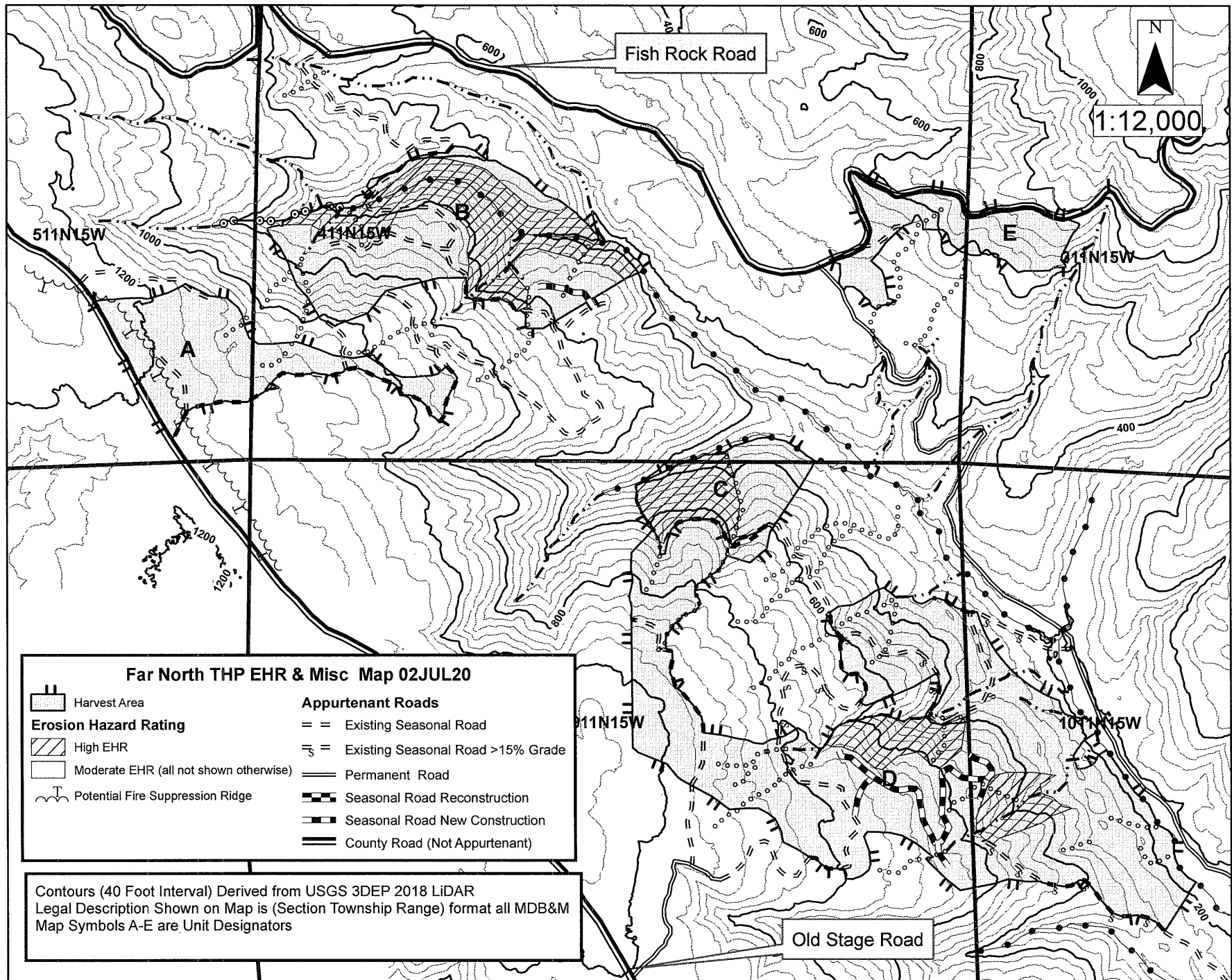


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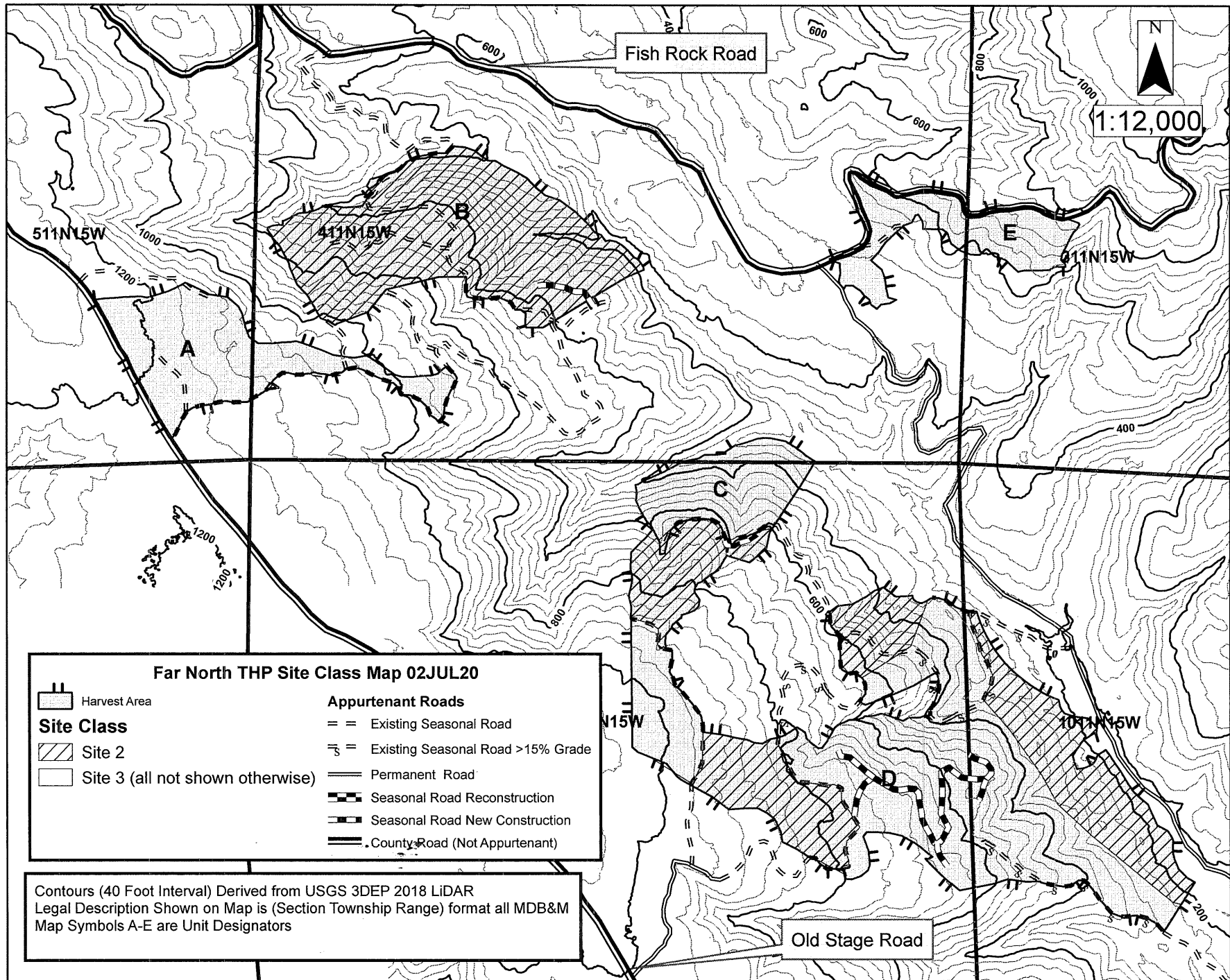
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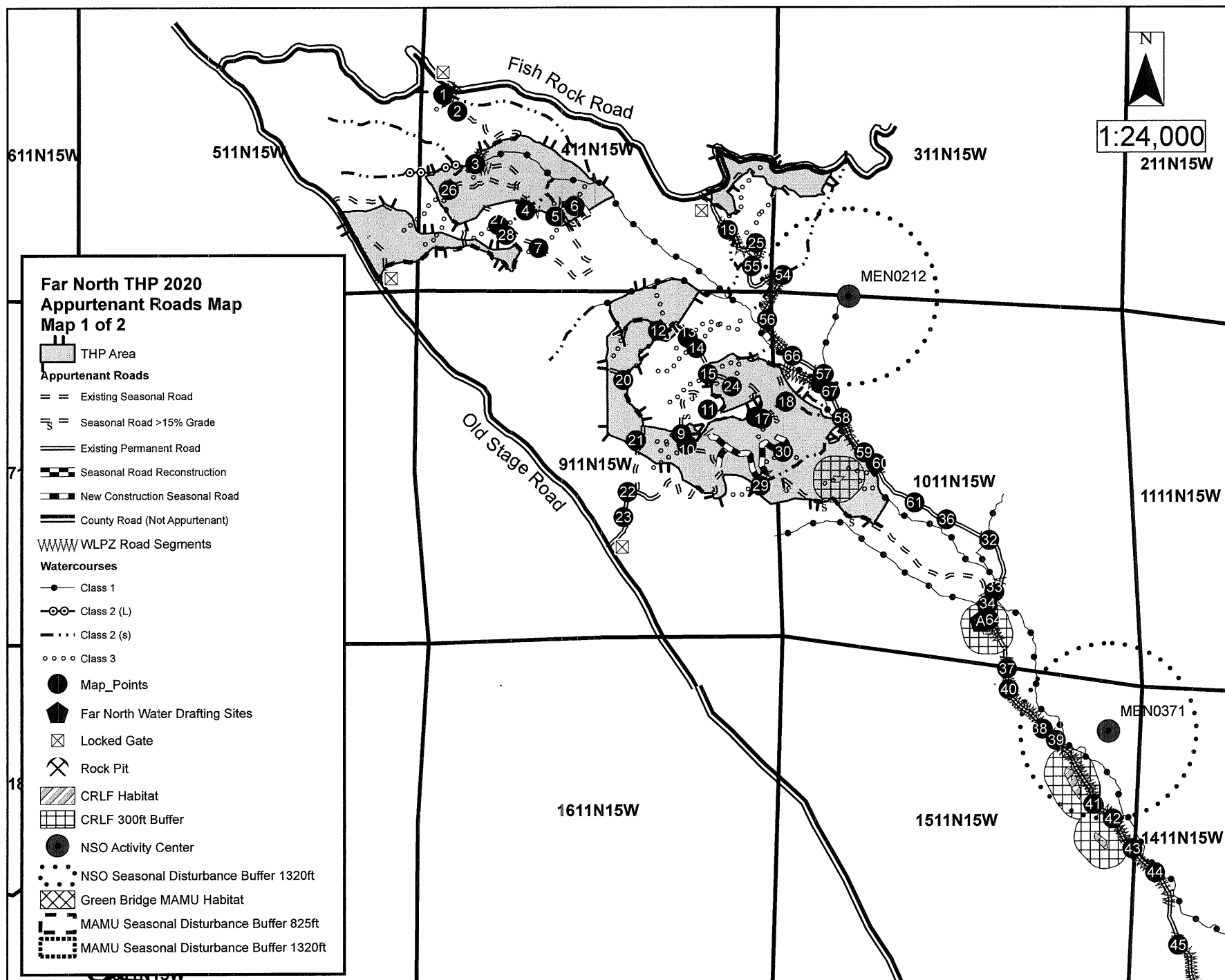




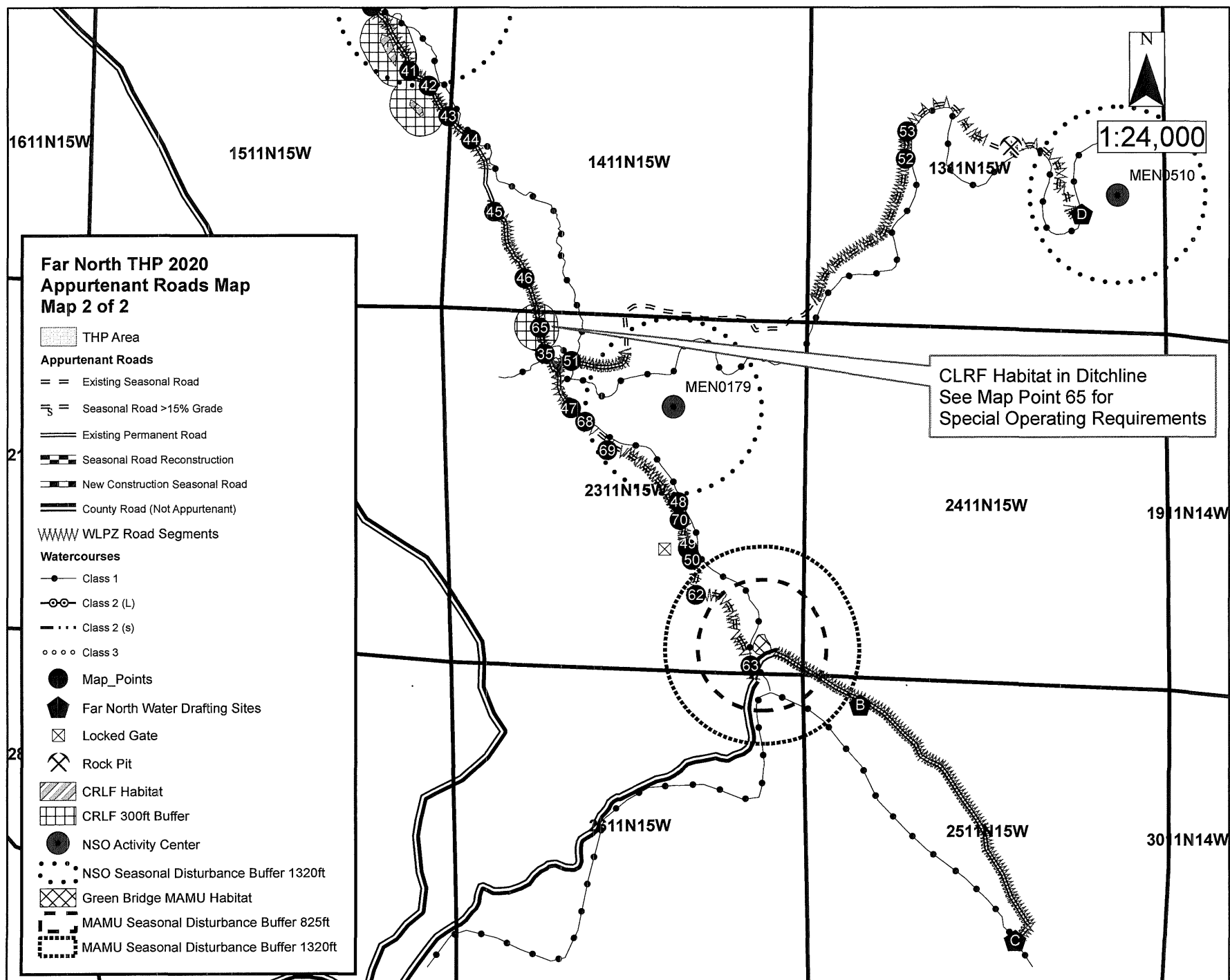


74





96



# MEN0212

## SEASONAL AND PERMANENT NSO RESTRICTIONS

JUNE 18, 2020



### PERMANENT RESTRICTIONS:

No harvesting within 500 feet of NSO without amendment.  
Maintain nest/roost habitat between 500-1,000 ft.

### SEASONAL RESTRICTIONS:

Seasonal restrictions apply within 0.25  
miles of active NSO. No timber operations  
(except use of permanent roads) until after July 31.  
(See USFWS Attachment A, 2019)

### Legend



MEN0212 LOCATION

### Road Class

— Paved Public

— Unpaved Public

— Private Permanent

- - - Private Seasonal

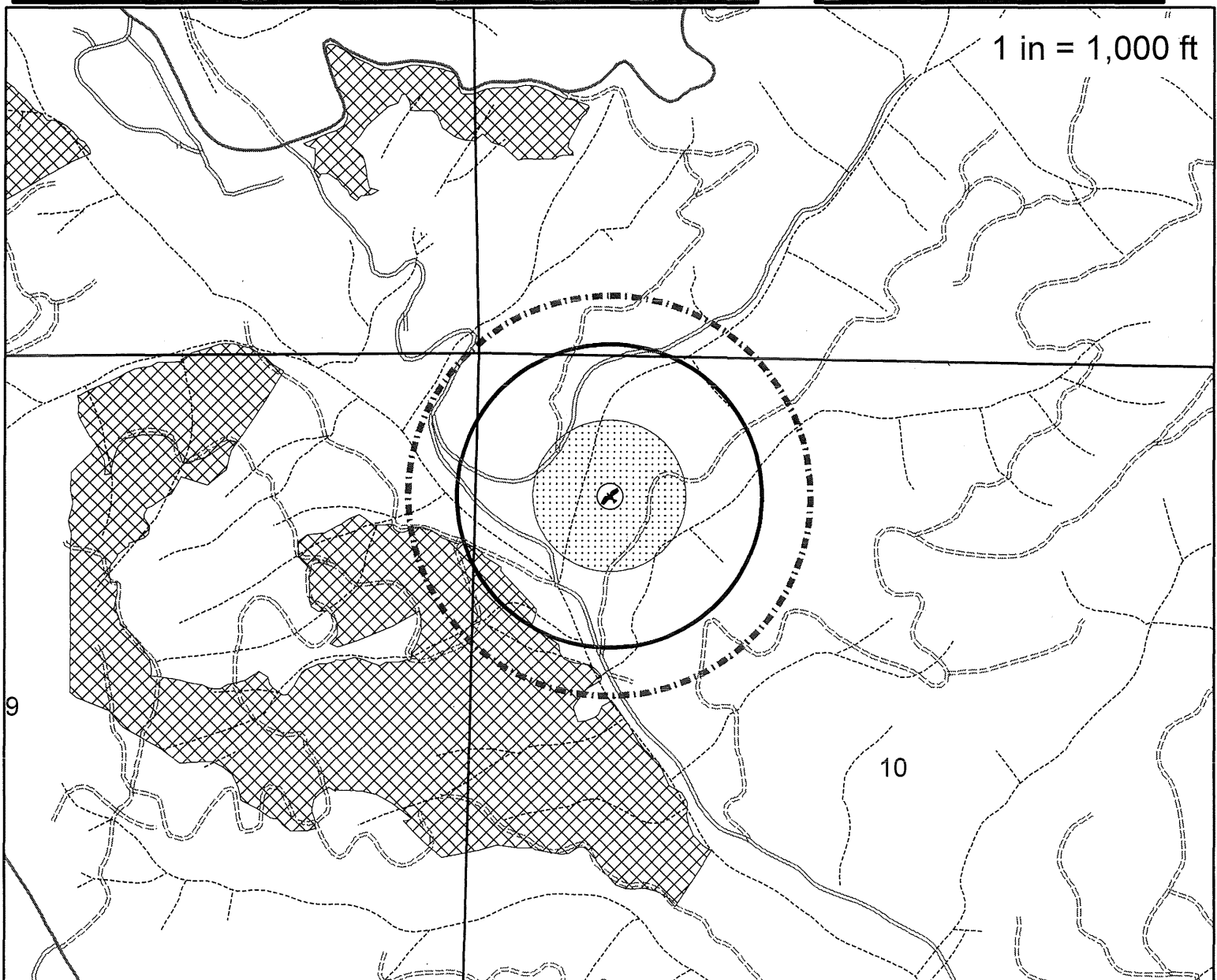
- - - WATERCOURSES

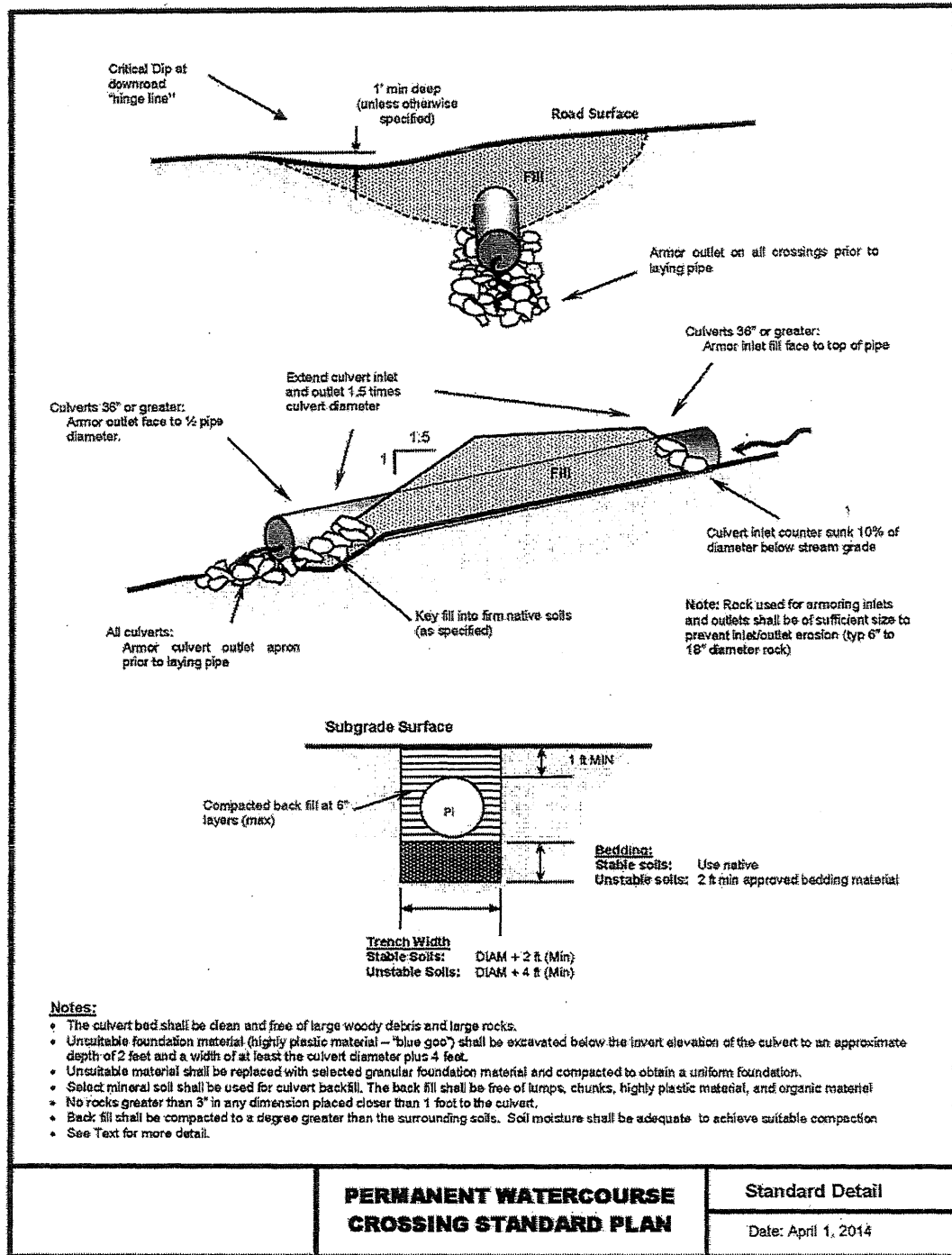
500 FOOT BUFFER

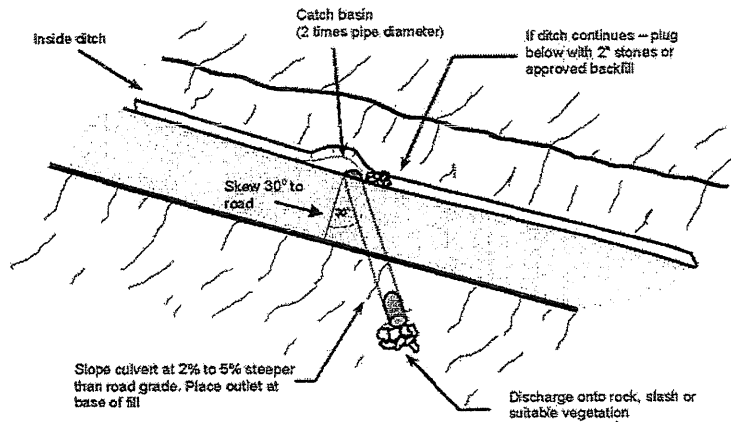
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0.25 MILE BUFFER

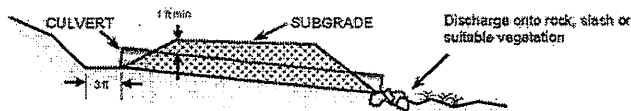
FAR NORTH THP BOUNDARY



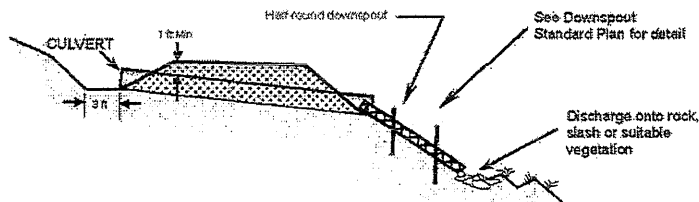




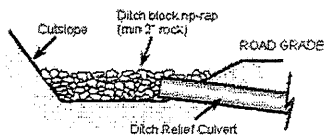
**TYPE "A" DITCH RELIEF CULVERT  
(no downspout)**



**TYPE "B" DITCH RELIEF CULVERT  
(with round or half round downspout)**



**TYPICAL DITCH BLOCK SECTION**



**NOTES**

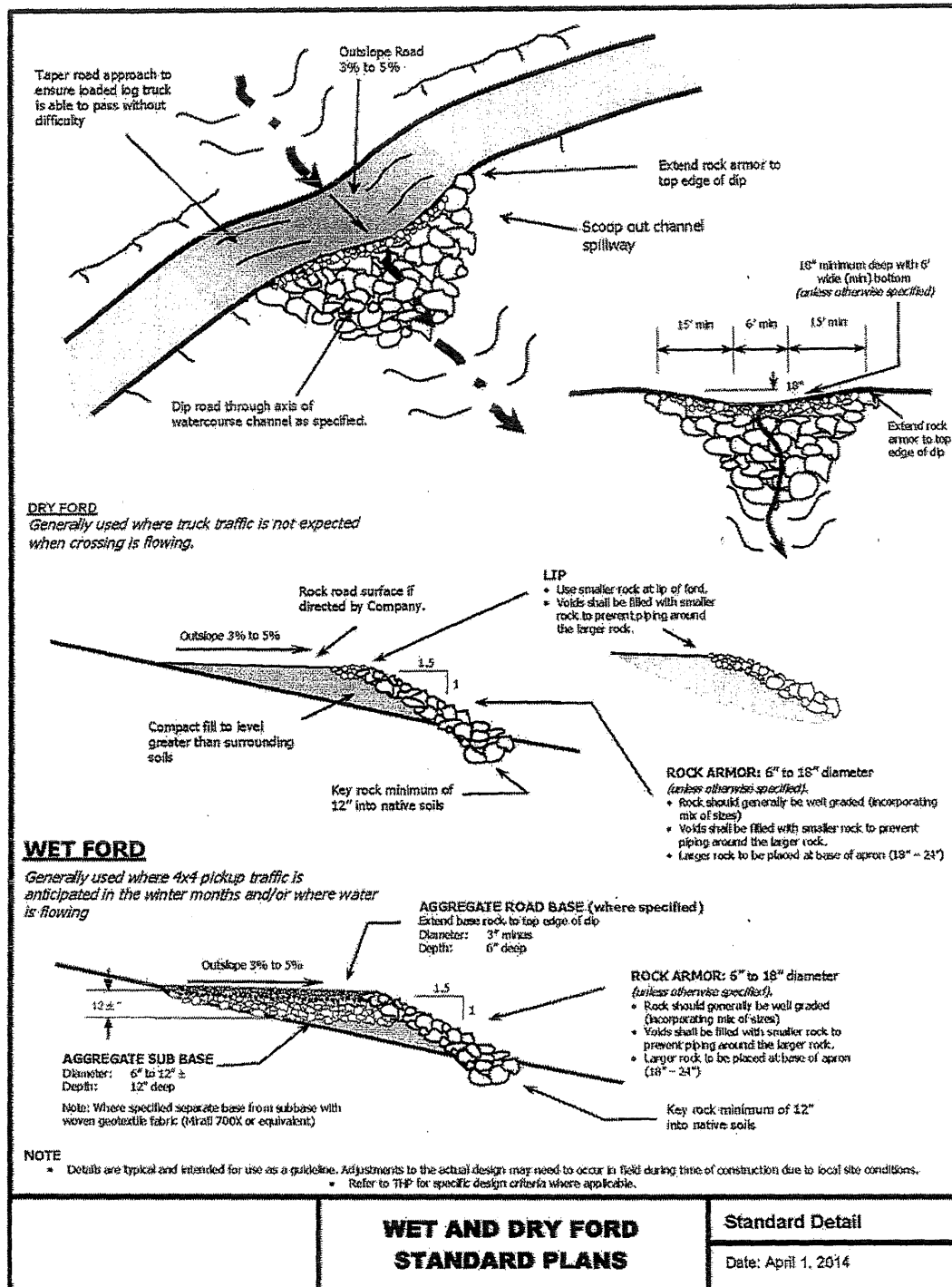
- Backfill should be compacted alongside and over top of the culvert.
- Culverts should extend a minimum of 1' beyond base of road fill, or flume used to carry flow beyond fill.
- Rock, slash or suitable vegetation should be used at discharge point.

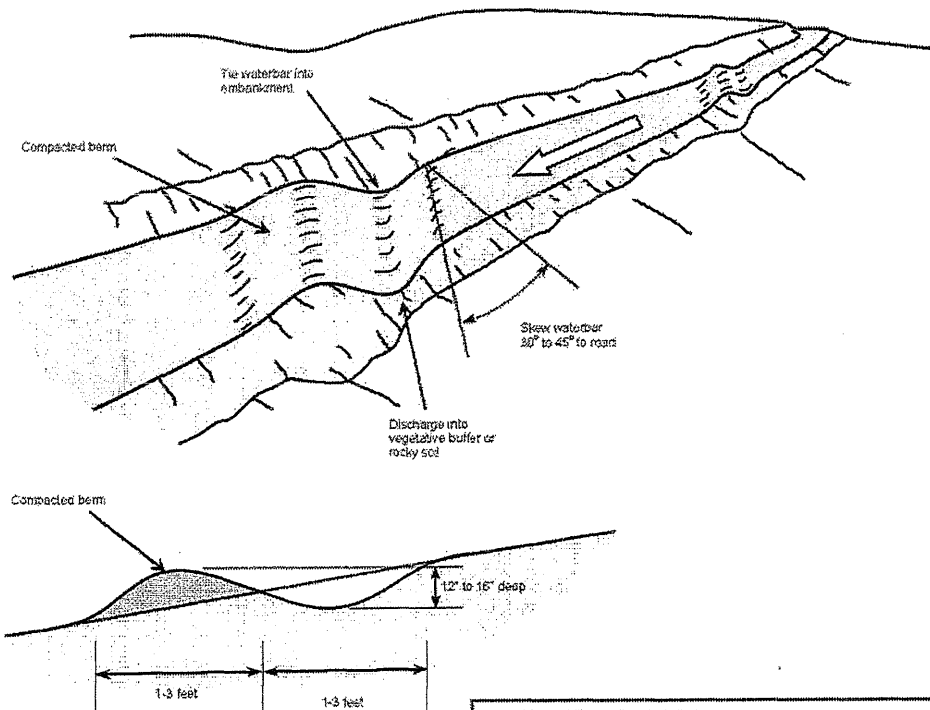
**DITCH RELIEF CULVERT  
STANDARD PLAN**

Standard Detail

Date: April 1, 2014







#### NOTE TO THE OPERATOR

The typical and associated guidelines are intended to: (1) provide for waterbar construction and (2) provide consistent implementation on managed Timberlands. Effective drainage facilities on native surface logging roads minimize erosion, maintain the integrity of the road prism and reduces future road maintenance issues. It is understood that site-specific conditions may require deviation(s) from the typical approach. Primary considerations should be given to waterbar outlet location.

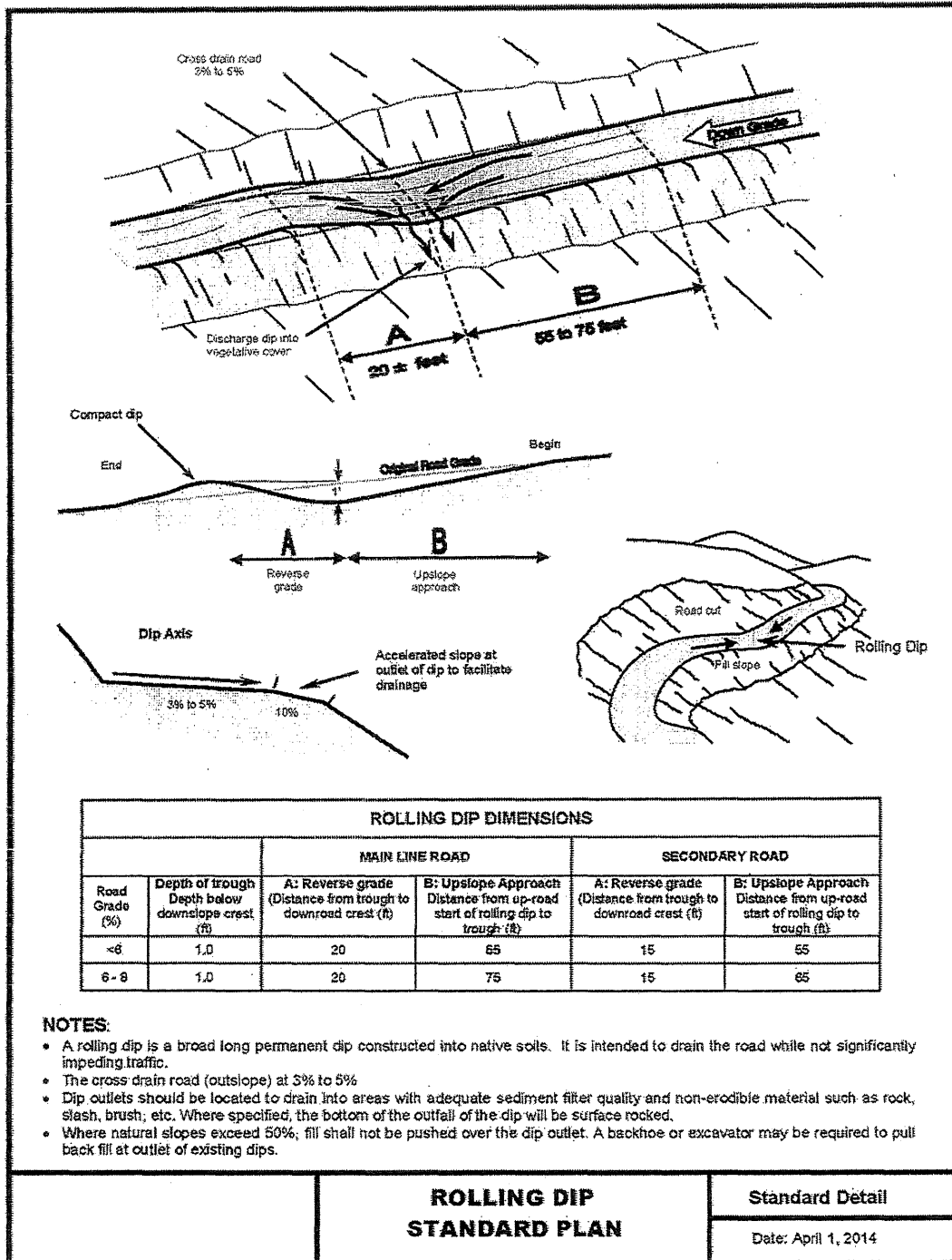
#### NOTES

1. Identify waterbar locations that take advantage of natural drainage features and minimize the amount of disturbance required for waterbar construction.
2. All waterbars shall begin at the intersection of the roadbed surface and the cut slope and run the entire width of the road surface prism.
3. Waterbar length shall not exceed 1.5 times the width of the road surface.
4. Acceptable waterbars shall be skewed 30 to 45 degrees.
5. All waterbars shall have free flowing outlets with minimum 2% grade in the bottom of the channel that discharge onto vegetative surfaces or less erodible material where possible.
6. Native materials used to construct downslope berm shall be compacted with equipment to minimize wear resulting from trespass and/or administrative use.
7. Waterbar depth measured from the bottom of the waterbar channel to the top of the compacted berm must be between 12" and 16" high.
8. Compacted waterbars must be passable in a 4WD vehicle unless otherwise specified in the contract or by a logging supervisor in writing.

### WATERBAR STANDARD PLAN

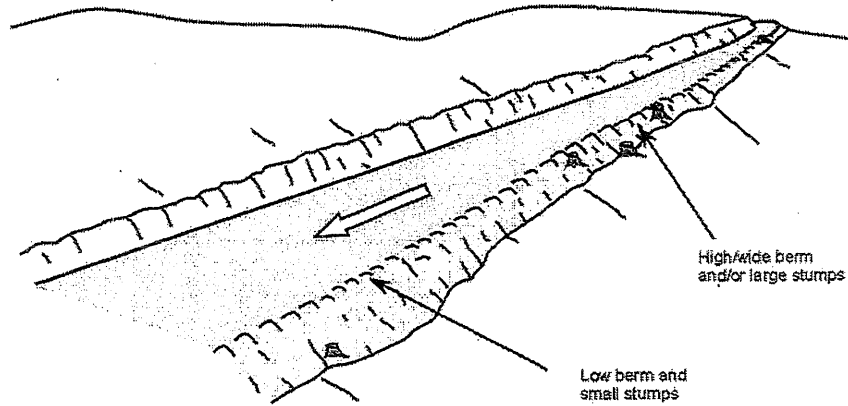
Standard Detail

Date: April 1, 2014

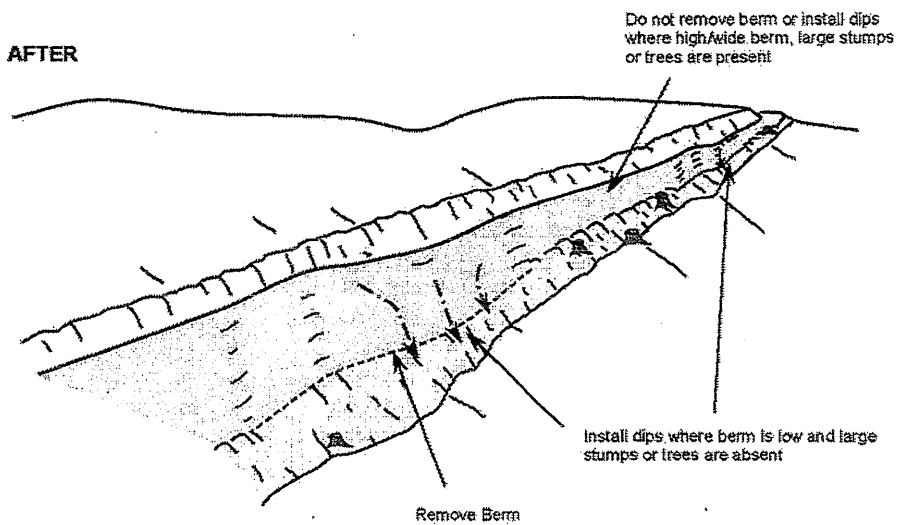


## ROLLING DIP APPLICATION ON EXISTING ROADS

BEFORE



AFTER

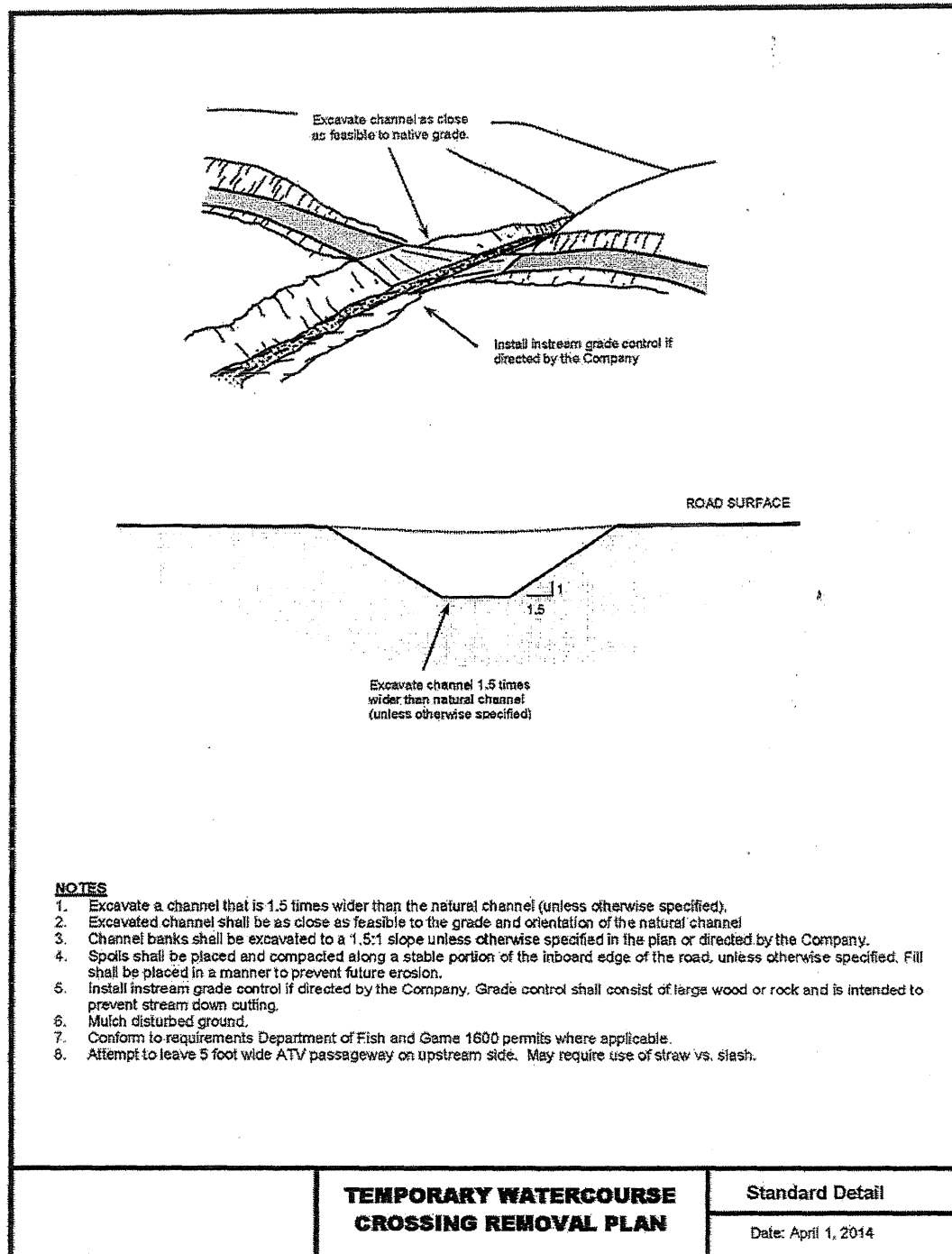


NOTE: See Rolling Dip Standard Plan for design specifications

**ROLLING DIP APPLICATION  
ON EXISTING ROADS**

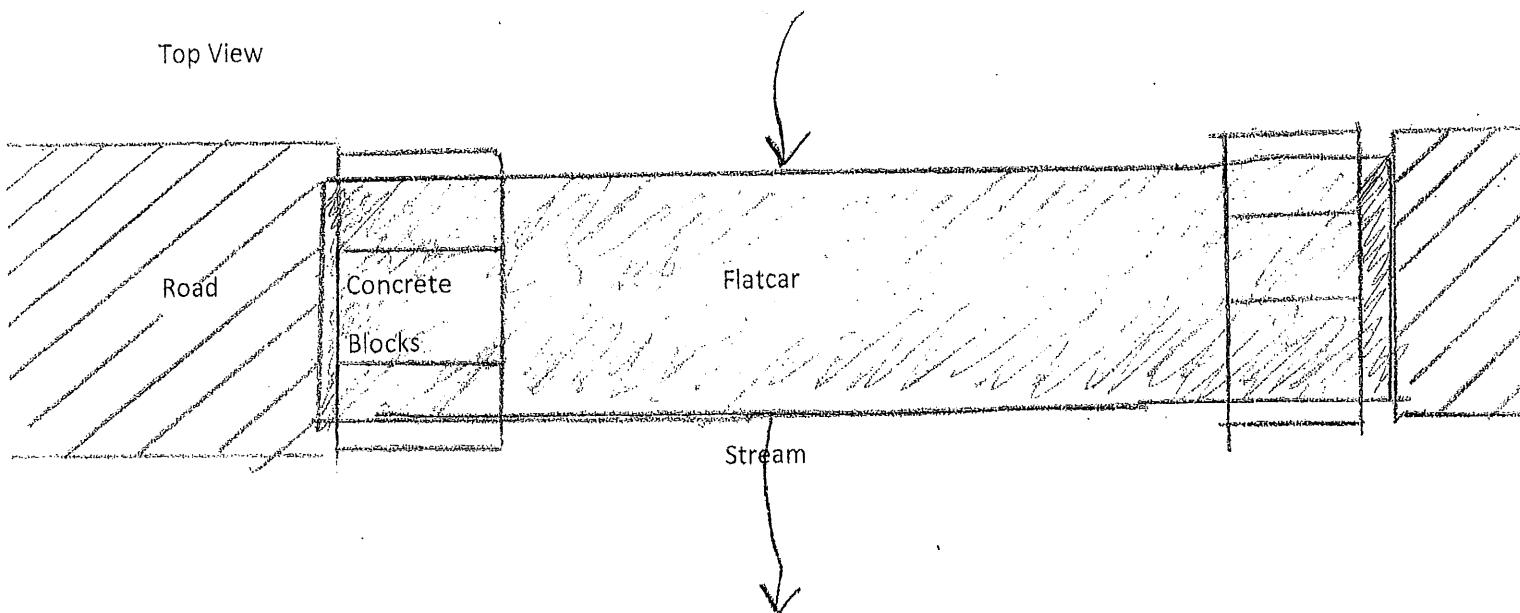
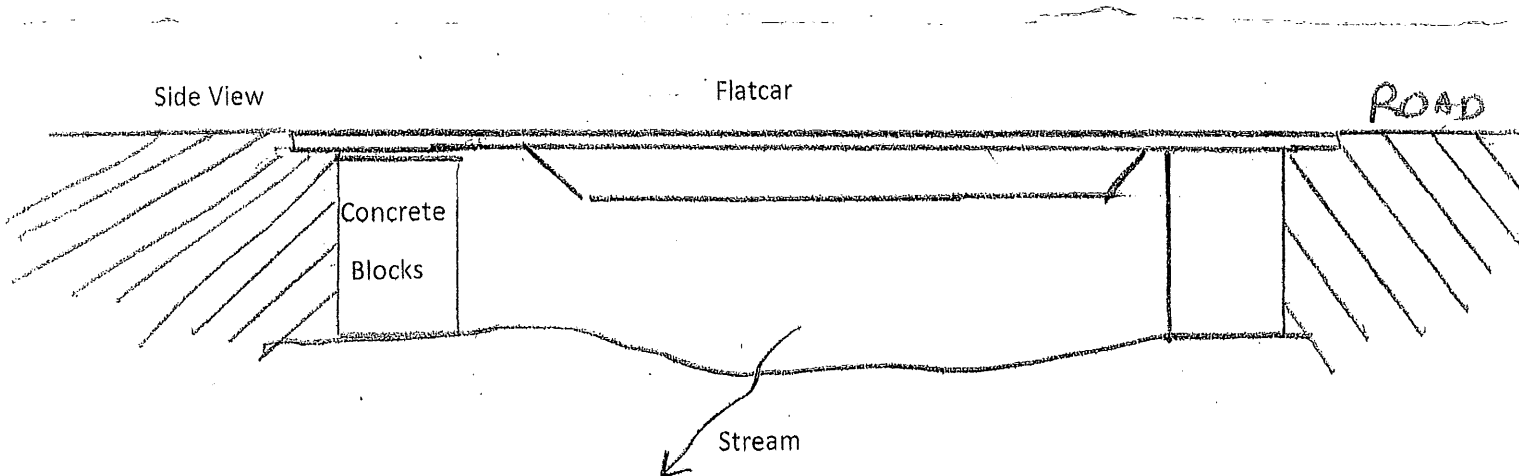
Standard Detail

Date: April 1, 2014



## Temporary Bridge Installation

Summer Bridge Installation Map Point 31.  
The temporary bridge may be placed either  
on concrete blocks or rest directly on the  
ground. This is same location as MP 24 in  
THP 1-18-095MEN.



## Notification Information List Pursuant to Fish and Game Code Section 1611

**THP# 1-20-xxxxxMEN**

**THP Name Far North THP**

**IMPORTANT:** In order to facilitate processing of Streambed Alteration Notifications via Fish and Game Code (FGC) Section 1611, the Department of Fish and Game (Department) recommends all information requested below be attached in Item 26(d) of Timber Harvesting Plans (THPs) in Sections II or III, as appropriate. Please provide the following information for notification of Lake or Streambed Alteration Activities in accordance with the "Guidelines for Lake or Streambed Alteration Notification via Timber Harvesting Plans".

1. Basic data, including all the following:

- a. The name, address, and telephone number of the Applicant:  
**Gualala Redwood Timber, LLC**  
**P.O. Box 197, Gualala CA 95445**  
**(707) 894-4245**  
Operator: **Unknown, to be specified via deviation to the THP.**  
Contractor: **Unknown**  
Contact Person: **John Bennett P.O. Box 197, Gualala CA 95445 (707) 894-4245**  
Property Owner: **Gualala Redwood Timber, LLC; P.O. Box 197, Gualala CA 95445**
- a. The name of each lake and the name and watercourse classification of each stream the lake or streambed alteration activities will affect, including the nearest downstream watercourse or water body.

**See table under item "d." below**

- b. The township, range and section numbers, and the latitude and longitude of each lake and stream encroachment.

**See table under item "d." below**

- c. A single map or diagram clearly showing all of the following:
  - i. All lake and stream encroachments, with a number or other appropriate identifying label.  
**Please refer to the THP Maps and to the Appurtenant Road Maps in Section II.**
  - ii. All roads, with a number or other appropriate identifying label.  
**Please refer to the THP Maps and to the Appurtenant Road Maps in Section II.**
  - ii. All watercourse classifications (i.e., Class I, II, or III).  
**Please refer to the THP Maps and to the Appurtenant Road Maps in Section II.**
  - iii. Access from a named public road.  
**Please refer to Appurtenant Road Map Tiles in Section II.**
  - iv. A north arrow and scale.  
**Please refer to the THP Maps and to the Appurtenant Road Maps in Section II.**
- d. A description of the types of lake or stream encroachments the applicant intends to construct, install, use or remove (e.g., a corrugated metal pipe, "Humboldt" crossing, impoundment for water diversion, water drafting sites, bank stabilization, rocked ford, bridge, etc.), and whether they will be temporary or permanent. If multiple lake or stream encroachments are proposed, the applicant should include a table that describes each type of encroachment (e.g., permanent culvert, temporary bridge, rock revetment, etc.), watercourse classification, culvert size and encroachment map reference number.

There are proposed THP related in-stream activities that require a CDFW Agreement for operations to be conducted on this plan. This THP is being used as the CEQA review mechanism for the CDFW 1600 series agreement for the following sites specific to this THP. The 1600 sites are listed in the table below and are shown on the THP Maps:

Map point	Feature	Tributary to	Longitude	Latitude	Legal, all MDBM
3	Class 1 Failing Culvert to be removed at completion of operations.	LNF Gualala River	-123.55083	38.82998	11N15W Sec.# 4, SW1/4
4	Class 2 Crossing Upgrade/ Culvert Replacement	LNF Gualala River	-123.54830	38.82813	11N15W Sec.# 4, SW1/4
5	Class 2 Crossing Upgrade/ Culvert Replacement	LNF Gualala River	-123.54668	38.82782	11N15W Sec.# 4, SW1/4
6	Class 3 Temporary Crossing	LNF Gualala River	-123.54566	38.82825	11N15W Sec.# 4, SW1/4
12	Class 3 Culvert Installation	LNF Gualala River	-123.54119	38.82309	11N15W Sec.# 9, NE1/4
13	Class 3 Crossing Upgrade / Existing Rock Armored Ford	LNF Gualala River	-123.53966	38.82279	11N15W Sec.# 9, NE1/4
14	Class 3 Crossing Upgrade / Existing Rock Armored Ford	LNF Gualala River	-123.53918	38.82239	11N15W Sec.# 9, NE1/4
15	Class 3 Crossing Upgrade / Existing Rock Armored Ford	LNF Gualala River	-123.53859	38.82133	11N15W Sec.# 9, NE1/4
18	Class 2 Temporary Crossing	LNF Gualala River	-123.53441	38.82024	11N15W Sec.# 10, NW1/4
26	Correct Class 3 Watercourse Diversion	LNF Gualala River	-123.55262	38.82879	11N15W Sec.# 4, SW1/4
27	Class 3 Temporary Crossing	LNF Gualala River	-123.54961	38.82746	11N15W Sec.# 4, SW1/4
29	Class 3 Temporary Crossing	LNF Gualala River	-123.53577	38.81674	11N15W Sec.# 9, NE1/4
30	Class 3 Temporary Crossing	LNF Gualala River	-123.53461	38.81818	11N15W Sec.# 10, NW1/4
31	Class 1 Temporary Bridge	LNF Gualala River	-123.53270	38.82090	11N15W Sec.# 10, NW1/4
38	Class 2 Culvert Replacement	LNF Gualala River	-123.52085	38.80681	11N15W Sec.# 15, NE1/4
41	Class 2 Culvert Replacement	LNF Gualala River	-123.51815	38.80366	11N15W Sec.# 15, NE1/4
45	Class 2 Culvert Replacement	LNF Gualala River	-123.51361	38.79789	11N15W Sec.# 14, SW1/4
48	Class 2 Culvert Replacement	NF Gualala River	-123.50426	38.78599	11N15W Sec.# 23, SE1/4
60	Class 2 Culvert Replacement	LNF Gualala River	-123.52969	38.81768	11N15W Sec.# 10, NW1/4
64	Class 2 Culvert Replacement	LNF Gualala River	-123.52363	38.81124	11N15W Sec.# 23, SE1/4
TC	Class 3 Temporary Tractor Crossing	LNF Gualala River	-123.54039	38.81792	11N15W Sec.# 9, NE1/4
TC	Class 3 Temporary Tractor Crossing	LNF Gualala River	-123.54047	38.81875	11N15W Sec.# 9, NE1/4
TC	Class 3 Temporary Tractor Crossing	LNF Gualala River	-123.54317	38.82286	11N15W Sec.# 9, NE1/4
TC	Class 3 Temporary Tractor Crossing	LNF Gualala River	-123.53619	38.82965	11N15W Sec.# 4, SE1/4
Site A	Water Drafting at Excavated Sump Aquatic Habitat	LNF Gualala River	-123.52412	38.81118	11N15W Sec.# 10, SE1/4
Site B	Water Drafting at Excavated Sump Aquatic Habitat	SF Gualala River	-123.49423	38.77769	11N15W Sec.# 25, NW1/4
Site C	Class 1 Off Channel Drafting Site	SF Gualala River	-123.48649	38.76911	11N15W Sec.# 25, SE1/4
Site D	Class 1 Off Channel Drafting Site	NF Gualala River	-123.48275	38.79792	11N15W Sec.# 13, SE1/4

Map points are located on in the "Gualala and McGuire Ridge" USGS Quadrangles.  
See THP Maps and Appurtenant Roads Maps for locations.



**For additional information refer to THP Section 2 Item 26, the Map Point Table and Standard Construction Diagrams located near the end of THP Section 2.**

- e. A description of the fish and wildlife and botanical resources the work could adversely affect, including riparian resources and special status species (i.e., species listed under the California Endangered Species Act ("CESA") and/or the federal Endangered Species Act ("ESA"), species fully protected under state law, and/or species of special concern). If the work could adversely affect any listed species, the applicant should indicate whether consultation under CESA or ESA has commenced and if so, the current status of the consultation. Applicant should also provide the biological opinion, as applicable.

**Please refer to THP Section 2 item 32 and THP Section 4 for information concerning fish, wildlife and botanical resources associated with the planned harvest. The botanical survey is in process and will be completed prior to operations.**

- f. Indicate if the work takes place in, adjacent to, or near a river that has been designated as "wild and scenic" under state or federal law.

**The proposed activities do not take place adjacent to or near a Wild or Scenic River.**

2. Information about each lake and stream encroachment, including the following:

- a. Construction plans, including specific details, cross sections, and dimensions.

**Refer to the Map Point Table in THP Section 2, Item 38 and Standard Construction Diagrams located near the end of THP Section 2.**

- b. If water will be present and diversion of flow around the work site is necessary, the volume of water to be diverted and the method of diversion. **Water will not be present when construction activity is occurring in the stream channel. Should residual flow be present during time of activity this flow will be diverted around the work site.**

- C. If water drafting is proposed, provide drafting site information (i.e. estimated volume, drafting rate, timing, etc.). Indicate if the activity will be done pursuant to a water right application or permit. If water drafting is proposed, provide drafting site information required by Forest Practice Rules 14 CCR 916.9(r)(2).

- (A) a general description of the conditions and proposed water drafting;

**Drafting Site A**

The drafting site (A) is the same location as was previously reviewed under THP 1-18-095-MEN and associated CDFW 1600 series agreement #1600-2016-0424-R1. This site (A) is also a planned water source for THP 1-18-095MEN and an anticipated 2020 plan located in the Doty Creek drainage. The drafting site (A) is an off channel excavation constructed years ago for this purpose. The waterhole provides Class II habitat.

**Drafting Site B**

The drafting site (B) is the same location as was previously reviewed and approved under THP 1-19-00197MEN. This site (B) is also a planned water source for THP 1-18-095MEN, 1-19-00197MEN, 1-20-00003-SON and an anticipated 2020 plan located in the Doty Creek drainage. The drafting site (B) is an off channel excavation constructed years ago for this purpose. The waterhole provides Class II habitat.

**Drafting Site C**

The drafting site (C) is the same location as was previously reviewed and approved under THP 1-16-094MEN and associated CDFW 1600 series agreement #1600-2016-0424-R1. This site (C) is also a planned water source for THP 1-18-095MEN, 1-19-00098MEN, 1-19-00197MEN and 1-20-00003-SON. The drafting site (C) is on the South Fork of the Gualala River. The South Fork of the Gualala is contained in the San Andreas Fault in a 100-200 foot wide very low gradient alluvial channel. The alluvium has been estimated to be up to 175 feet deep in the center and tapering toward the edges. The summer wetted channel is approximately 25 feet wide. The substrate is composed exclusively of cobbles, small gravel, sand and silt. The stream banks have a 50% slope and transition onto the alluvial flats that can be up to 1000 feet wide and are 20 or 30 feet higher in elevation.

**Drafting Site D**

The drafting site (D) is the same location as was previously reviewed and approved under THP 1-168-095MEN. This site (D) is also a planned water source for THP 1-18-095MEN, 1-19-00098MEN, and an anticipated 2020 plan located in the Doty Creek drainage.. The drafting site (D) is on the North Fork of the Gualala River. The North Fork of the Gualala is similar to the South Fork Gualala with a deep alluvium and with a wetted channel is 15+/- feet wide in the summer. The stream banks transition into the alluvial flats with less elevation rise than on the south fork. The adjacent gentle areas are narrower and are usually between 150 and 800 feet wide.

- (B) a map showing proposed water drafting locations;  
Please refer to the Appurtenant Roads Map located near the end of THP Section 2.
- (C) the watercourse classification;  
Locations A and B are previously excavated sumps that are located off channel but may be considered now as class II habitat. Locations C and D will be off channel sumps excavated adjacent to class I watercourses on gravel bars.
- (D) the drafting parameters including the months the site is proposed for use  
April 1<sup>st</sup> through November 15<sup>th</sup> of any year of operation.
- (E) Describe estimated total volume needed per day  
In aggregate, GRT will use no more than 8,000 gallons per day from active channel water holes on the North Fork of the Gualala (hole D ) or 25,000 gallons per day on the South Fork of the Gualala (hole C), normally far less is needed. For instance, in 2015 drafting from the channel for all operations occurred over 85 days, and average usage was 2,447 gallons per day. The most water pumped in a day was 12,000 gallons.

- (F) Describe estimated maximum instantaneous drafting rate and filling time;  
**Pumping rate – 300 GPM = 0.668 CFS**  
**Drafting duration -15 Minutes**
- (G) Disclose other water drafting activities in the same watershed;  
**Gualala Redwood Timber drafts from three locations that lie between the confluence of the Wheat Field branch and the south fork of the Gualala and the confluence of the south fork and the north fork. North Gualala Water Company and Sea Ranch Water Company gets water from the Gualala River watershed via wells. The North Gualala Water Company wells are in the North Fork Gualala River. The Sea Ranch wells are one mile below Twin Bridges in the South Fork of the Gualala River.**
- (H) Estimate the drainage area (acres) above the point of diversion;  
**Excavated water holes at locations (A) and (B) do not have drainage areas but are intercepting rain and ground water. Drafting location C has an upstream drainage of approximately 165,000 acres. Drafting location D has an upstream drainage of approximately 25,000 acres.**
- (I) Describe the estimated unimpeded stream flow, pumping rate, and drafting duration.  
**The following applies to drafting locations (C) and (D). Drafting locations (A) and (B) are not connected to watercourses.**

**Bypass flows for Class I watercourses shall be provided in volume sufficient to avoid dewatering the watercourse and maintain aquatic life downstream, and shall conform to the following standard unless modified in the 1600 agreement for this THP:**

- **Diversion rate shall not exceed 10 percent of the surface flow, unless modified by the**
- **1600 agreement**
- **Pool volume reduction shall not exceed 10 percent.**
- **Drafting will occur between April 1 and November 15.**

**Do not draft water from the flowing stream channel; instead, all water shall be drafted from off channel sumps. Excavations on the gravel bar shall be no less than 10 feet from the wetted channel. Excavation of the gravel bar hole shall be conducted in isolation from the flowing stream.**

**Before commencing any water drafting operation, the RPF and the drafting operator shall conduct a pre-operations field review to discuss the water drafting measures in the plan and in the 1600 agreement.**

**Each of the drafting sites shall have a downstream pool designated within the wetted channel that is easily observable from the drafting site but as far away as possible. This pool shall be used to determine any flow changes from drafting activities. A water level gauge with at least 0.05 foot increments shall be installed in this pool. An additional riffle crest monitoring station shall be placed downstream of each drafting monitoring site in August and September.**

**A pump test shall be conducted by an RPF at each site prior to commencement of any drafting activities and monthly thereafter. The purpose of this test is to establish if enough flow is present to allow for water drafting without significantly altering flow as measured by the wetted width of the channel. The test shall provide an estimate of the maximum change in water surface elevation as measured at the pool water level gauge that would result in a change of less than 0.10 foot to the wetted width at each monitoring site (the first downstream riffle crest).**

**The diversion rate shall exceed 300 gallons per minute.**

**In aggregate, for GRT operation (including Bed Rock's 1600 permit), GRT will use less than 25,000 gallons per day from active channel water holes.**

**Water truck operators shall be in possession of log books that shall contain the following information, kept current during operations: 1) drafting site location, 2) date, 3) time, 4) pump rate, 5) filling time 6) screen cleaning /inspection notes, 7) pre and post drafting pool water elevation as recorded from the water level gauge. Drafting logbook data shall be submitted to CDFW monthly for each year that drafting operations occur, or sooner upon request.**

If, during any drafting activity, the water level as read on the pool water gauge drops by more than 0.05, or the amount determined by the pump test (see item D above) to cause a change greater than 0.10 foot to the wetted width at the riffle downstream, pumping shall immediately cease.

- (J) Discuss the effects on aquatic habitat downstream from the drafting site(s) of single pumping operations, or multiple pumping operations at the same location, and at other locations in the same watershed;

A hydrological study by O'Connor Inc. dated June 11, 2010 (previously submitted to CDFW) indicates that even at the rate of 25,000 gallons of water per day GRT would be using between .3% and .5% of the available daily Row on the South Fork of the Gualala. Any downstream effects would be insignificant on fish and wildlife. Drafting logs show that virtually no reduction of pool volume occurs even during periods of low bypass flows because of the large subsurface flow that is available.

Sea Ranch Water Co. pumps from wells during periods of high flows and stores the water in reservoirs.

- (K) Discuss proposed alternatives and measures to prevent adverse effects to fish and wildlife resources, such as reducing hose diameter; using gravity-fed tanks instead of truck pumping; reducing the instantaneous or daily intake at one location; describing allowances for recharge time; using other dust palliatives; and drafting water at alternative sites;
- GRT has used magnesium chloride in the past as a dust palliative and may do so again.
  - Drafting takes place at sites closest to the roads needing dust abatement, which spreads out volume demands over the four different drafting locations.
  - Water holes were previously dug, at the request of CDFW and with their approval, far from existing watercourses in order to provide an alternate source for water drafting. These water holes will be used again, and effectively cause less need for water uptake from the gravel pits.
- (L) The methods that will be used to measure source stream flow prior to the water drafting operation and the conditions that will trigger stream flow to be measured during the operation.

See section (I) above concerning stream flow measurement. Relying on the O'Connor hydrological study and past experience, drafting 25,000 gals per day from the South Fork will not have a significant effect on downstream flow.

All water drafting for Timber Operations are subject to each requirement below unless the Department of Fish and Wildlife modifies the requirement in the Lake or Streambed Alteration agreement that authorized the drafting operation, or unless otherwise specified below:

- d. The materials (e.g., soil, sand, gravel, ¼- to ½-ton rip-rap, large wood, etc.) and volumes that will be used for and/or removed from the lake or stream encroachment, the dimensions of the area to be excavated and the dimensions of the area to be filled.  
**Construction activity is limited to installation and repair or rehabilitation of existing crossings and temporary gravel bar use in association with water drafting. The road prism is approximately 40 feet wide. See Operators table and Typical Diagrams in Section II, Item 38.**
- e. Specify the type of equipment to be used.  
**Tractors, excavators, bulldozers, graders water trucks and backhoes.**
- f. Proposed work periods including the date or conditions requiring temporary crossing removal.  
**April 1<sup>st</sup> through November 15<sup>th</sup> of any year of operation.**

- g. The species composition and density of vegetation to be removed or disturbed as a result of lake or streambed alteration activities. Indicate if sensitive plant surveys have been completed within areas which will be affected by lake or stream encroachments. Include any plans to restore the affected riparian or hydrophytic vegetation.  
**The harvest area consists of young growth mixed conifer forest. Please see THP text and Botanical Survey which will be completed before operations.**
- h. Mode of impact to fish, wildlife and botanical resources (i.e., changes in sediment and/or flow delivery rates, dewatered or impounded watercourses, destabilized stream banks, erosion causing sediment deposition, changes to or elimination of riparian vegetation, reduced canopy affects on microclimate and/or water temperature, etc.)  
**Sediment production is the primary vector in which an adverse impact to aquatic species could occur as a result of the proposed road repair.**
- i. Measures included to protect fish, wildlife and botanical resources (i.e., avoidance measures, sediment control measures, construction time periods, methods to divert water around or away from the work site, special measures necessary to protect special-status species, a post-work action plan including measures to minimize soil erosion, re-vegetation, etc.).  
**Section 2 of THP specifies extensive erosion control measures to be taken so that the potential for sediment production is limited. These measures include minimization of site disturbance, mulching of disturbed soils near streams and other sensitive areas and temporal restrictions on the time of operations to avoid complications associated with winter period construction activity.**
- j. Calculations or other data used to size culverts.

## Far North 2020 Forest Road Improvement Program

## Estimated 100 Year Return Interval Peak Discharge at crossing replacement sites

Crossing	Acres	sq. mi	annual rainfall	run off coefficient	Time of Concentration	Rainfall Intensity	Magnitude & Frequency coefficient	CFS	current	indicated
4	17	0.026563	42	0.3	10 min	3		15	36	36
5	12	0.01875	42	0.3	10 min	3		11	24	30
12	9	0.014063	42	0.3	10 min	3		8	24	30
38	43	0.067188	42	0.3	10 min	3		39	48	48
41	70	0.109375	42	0.35	10 min	3		74	60	60
45	82	0.128125	42	0.3	10 min	3		74	48	60
48	31	0.048438	42	0.3	10 min	3		28	24	36
60	28	0.04375	42	0.3	10 min	3		25	24	36
64	3	0.004688	42	0.3	10 min	3		3	24	24

Discharge estimates are based on the Rational Culvert Sizing Method

- k. For bridge installations: indicate if the abutments or road approaches will encroach into the floodplain or channel; provide the calculations or data used to determine bridge height and flow capacity; describe the type of abutments and scour protections with dimensions; provide any engineering reports or plans; etc.  
**Temporary summer bridge only.**
- l. Describe any torrent, debris or landslide conditions at each encroachment.  
**Slope stability concerns are not associated with the above listed locations to our knowledge.**