

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE INTEGRATED RESOURCE CONTRACT (Applicable to Contracts with Measurement before Harvest)		Name of Contractor	
National Forest Ottawa	Ranger District Ontonagon	Region Eastern	Contract Number
Contract Name Gardner Pine Stewardship		Award Date	Termination Date 08/31/2019

The parties to this contract are The United States of America, acting through the Forest Service, United States Department of Agriculture, hereinafter called Forest Service, and _____ hereinafter called Contractor.

Unless provided otherwise herein, Forest Service agrees to sell and permit Contractor to cut and remove Included Timber and Contractor agrees to purchase, cut, and remove Included Timber and complete required stewardship projects.

IN WITNESS WHEREOF, the parties hereto have executed this contract as of the award date.

UNITED STATES OF AMERICA

Two Witnesses:^{2/}

By: _____
 Contracting Officer

 (Name)

 (Title)

 (Address)

By: _____
 (Contractor) ^{3/}

 (Name)

 (Title)

 (Address)

 (Business Address)

I, ^{4/} _____, certify that I am the _____
 Secretary of the corporation named as Contractor herein; that _____
 who signed this contract on behalf of Contractor, was then _____
 of the corporation; that the contract was duly signed for and in behalf of the corporation by authority of its governing body, and is
 within the scope of its corporate powers.

**CORPORATE
 SEAL ^{5/}**

Contract Name: Gardner Pine Stewardship

Contract No:

INSTRUCTIONS:

1/ If Contractor is a corporation, state a "corporation organized and existing under the laws of the State of _____" and specify the State; if Contractor is a partnership, state a "partnership consisting of _____" and specify the names of each partner; and if Contractor is a sole proprietor doing business under an assumed name, state "(n) individual doing business under the name of _____ City of _____, State of _____."

2/ The signatures and addresses of two witnesses are required if Contractor is other than a corporation.

3/ If Contractor is a co-partnership, the signatures should be: XYZ Company, by John Doe, a member of the firm. If Contractor is a corporation, form of signature should be: XYZ Company, by John Doe, President (or other officer or agent) and the seal of the corporation must be impressed or indicated.

4/ The certificate must be completed if Contractor is a corporation.

5/ For companies incorporated in States that require a corporate seal, if the corporation has no corporate seal that fact shall be stated, in which case a scroll or adhesive seal shall follow the corporate name.

EXAMPLE 1/

Subcontractor Certification
Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion

Contract Name: _____
National Forest: _____

The prospective subcontractor (participants in lower tier covered transactions) certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this contract by any Federal department or agency.

Where the prospective subcontractor is unable to certify to any of the statements in this certification, such prospective subcontractor shall attach an explanation to this proposal.

Name of Subcontractor: _____
Business Address: _____

_____ Date _____ Signature

1/ It is Contractor's responsibility to have subcontractors complete this certification and to maintain a file of completed certifications. This certification does not need to be returned to the Forest Service, except at the written request of the Contracting Officer.

Contract Name: Gardner Pine Stewardship

Contract No:

AT.0 - SPECIFIC CONDITIONS. The following conditions apply to the indicated portions of Division BT - Standard Provisions Issued September 2004.

AT.1 - Location and Area, applicable to BT.1

This Contract Area of 977 acres more or less is located in:

T49N-R38W Sec.8, 9,15, 16, 21, 22, 28,33; Ontonagon County

AT.2 - Volume Estimate and Utilization Standards, applicable to CT.1, CT.2, CT.4, and GT.4

Species	Product	Estimated Quantity *	Unit of Measure	Minimum Specifications				
				Merchantable Tree		Piece Required to be Removed		
				Diameter Breast High (d.b.h.) (inches)	Number of Minimum Pieces per Tree	Length (feet)	Diameter Inside Bark at Small End (inches)	Net Scale in % of Gross Scale
Red & White Pine	Sawtimber	4,120.00	CCF	9.0	1	8	7.6	40
Aspen	Pulpwood	5.00	CCF	5.0	1	8	4.0	70
Jack Pine	Pulpwood	9.00	CCF	5.0	1	8	4.0	70
Mixed Conifer	Pulpwood	7.00	CCF	5.0	1	8	4.0	70
Mixed Hardwood	Pulpwood	19.00	CCF	5.0	1	8	4.0	70
Pine	Pulpwood	1,378.00	CCF	5.0	1	8	4.0	70
Total Quantity		5,538.00	CCF					

* Quantities not included here are described in CT.4.

AT.3- Timber Designations, applicable to CT.3; acres are approximate:

	Number	Acres
Clearcutting Units (CT.3.1)	_____	_____
Specified Road Clearing (CT.3.2)	_____	_____
Overstory Removal Units (CT.3.3)	_____	_____
Understory Removal Units (CT.3.4)	_____	_____
Individual Trees (CT.3.5)	<input type="text" value=""/>	269
Incompletely Measured Payment Units (CT.3.6)	_____	_____

Contract Name: Gardner Pine Stewardship

Contract No:

AT.4 - Timber Payment Rates, applicable to DT.1 and ET.0

AT.4.1 - Escalated Rates, applicable for Species and Products to be Paid for at Rates Escalated under DT.2

Species	Product	Unit of Measure	Rates per Unit of Measure					Base Index
			Base \$	Advertised \$	Bid Premium \$	Bid (Tentative) \$	Required Deposits Slash Disposal \$	
Not Applicable								

AT.4.2- Flat Rates, applicable for Species and Products to be Paid for at Flat Rates

Species	Product	Unit of Measure	Rates per Unit of Measure				
			Base \$	Advertised \$	Bid Premium \$	Bid (Flat) \$	Required Deposits Slash Disposal \$
Red & White Pine	Sawtimber	CCF	1.00	89.34			.00
Aspen	Pulpwood	CCF	1.00	36.81			.00
Jack Pine	Pulpwood	CCF	1.00	71.85			.00
Mixed Conifer	Pulpwood	CCF	1.00	18.82			.00
Mixed Hardwood	Pulpwood	CCF	1.00	26.37			.00
Pine	Pulpwood	CCF	1.00	83.10			.00

For purposes of convenience in collection and bookkeeping, Bid Rates stated in AT.4 include payment of deposits for contract area betterment required pursuant to 16 USC 576b. Such deposits are not included as Required Deposits defined hereunder.

Contract Name: Gardner Pine Stewardship

Contract No:

AT.4.3 - Schedule of Payment Units

Payment Unit No.	App rox. Acres	To be Escalated under AT.4.1				Total Tentative Payment \$	To be Paid for at Flat Rates under AT.4.2				Total Flat Rate Payment \$	Total Required Deposits for Slash Disposal \$
		Species	Product	Qty	UOM		Species	Product	Qty	UOM		
001	21						Red & White Pine	Sawtimber	279.00	CCF		.00
							Aspen	Pulpwood	0.00	CCF		
							Jack Pine	Pulpwood	0.00	CCF		
							Mixed Conifer	Pulpwood	0.00	CCF		
							Mixed Hardwood	Pulpwood	3.00	CCF		
							Pine	Pulpwood	68.00	CCF		
		Total PU Quantity And Value									350.00	
002	22						Red & White Pine	Sawtimber	287.00	CCF		.00
							Aspen	Pulpwood	0.00	CCF		
							Jack Pine	Pulpwood	0.00	CCF		
							Mixed Conifer	Pulpwood	0.00	CCF		
							Mixed Hardwood	Pulpwood	1.00	CCF		
							Pine	Pulpwood	62.00	CCF		
		Total PU Quantity And Value									350.00	
003	26						Red & White Pine	Sawtimber	313.00	CCF		.00
							Aspen	Pulpwood	0.00	CCF		
							Jack Pine	Pulpwood	0.00	CCF		
							Mixed Conifer	Pulpwood	0.00	CCF		
							Mixed Hardwood	Pulpwood	1.00	CCF		
							Pine	Pulpwood	69.00	CCF		
		Total PU Quantity And Value									383.00	
004	48						Red & White Pine	Sawtimber	845.00	CCF		.00
							Aspen	Pulpwood	2.00	CCF		
							Jack Pine	Pulpwood	9.00	CCF		
							Mixed Conifer	Pulpwood	1.00	CCF		
							Mixed Hardwood	Pulpwood	1.00	CCF		
							Pine	Pulpwood	204.00	CCF		
		Total PU Quantity And Value									1,062.00	
005	18						Red & White Pine	Sawtimber	275.00	CCF		.00
							Aspen	Pulpwood	0.00	CCF		
							Jack Pine	Pulpwood	0.00	CCF		
							Mixed Conifer	Pulpwood	0.00	CCF		
							Mixed Hardwood	Pulpwood	3.00	CCF		
							Pine	Pulpwood	61.00	CCF		
		Total PU Quantity And Value									339.00	
006	37						Red & White Pine	Sawtimber	579.00	CCF		.00
							Aspen	Pulpwood	0.00	CCF		
							Jack Pine	Pulpwood	0.00	CCF		
							Mixed Conifer	Pulpwood	0.00	CCF		
							Mixed Hardwood	Pulpwood	0.00	CCF		
							Pine	Pulpwood	145.00	CCF		
		Total PU Quantity And Value									724.00	
007	44						Red & White Pine	Sawtimber	551.00	CCF		.00
							Aspen	Pulpwood	0.00	CCF		
							Jack Pine	Pulpwood	0.00	CCF		
							Mixed Conifer	Pulpwood	0.00	CCF		
							Mixed Hardwood	Pulpwood	0.00	CCF		
							Pine	Pulpwood	367.00	CCF		
		Total PU Quantity And Value									918.00	

Contract Name: Gardner Pine Stewardship

Contract No:

Payment Unit No.	App rox. Acres	To be Escalated under AT.4.1	Total Tentative Payment \$	To be Paid for at Flat Rates under AT.4.2			Total Flat Rate Payment \$	Total Required Deposits for Slash Disposal \$	
008	52			Red & White Pine	Sawtimber	797.00	CCF		.00
				Aspen	Pulpwood	0.00	CCF		
				Jack Pine	Pulpwood	0.00	CCF		
				Mixed Conifer	Pulpwood	0.00	CCF		
				Mixed Hardwood	Pulpwood	0.00	CCF		
				Pine	Pulpwood	360.00	CCF		
							Total PU Quantity And Value		
009	1			Red & White Pine	Sawtimber	194.00	CCF		.00
				Aspen	Pulpwood	3.00	CCF		
				Jack Pine	Pulpwood	0.00	CCF		
				Mixed Conifer	Pulpwood	6.00	CCF		
				Mixed Hardwood	Pulpwood	10.00	CCF		
				Pine	Pulpwood	42.00	CCF		
							Total PU Quantity And Value		

Contract Name: Gardner Pine Stewardship

Contract No:

AT.4.4 - Stewardship Credits, applicable to ET.2.2 and KT-GT.9#

Mandatory Stewardship Projects					
Project Number	Project Description	Units of Measure	Quantity	Bid Rate \$	Total Credits
BC-010	Road Decommissioning (Berm Closure)	Each	1.00		
BC-011	Road Decommissioning (Berm Closure)	Each	1.00		
GC-010	Gate Closure (removal of gate and resting post)	Each	1.00		
GC-011	Gate Closure (installation of gate and resting post)	Each	1.00		
RM-010	Road Mowing	Miles	1.56		
RR-010	Road Rehabilitation	Miles	1.56		
SC-010	Road Decommissioning (Slash Closure)	Each	1.00		

Optional Stewardship Projects						
Priority	Project Number	Project Description	Units of Measure	Quantity	Bid Rate \$	Total Credits
		Not Applicable				

Contract Name: Gardner Pine Stewardship

Contract No:

The following definitions are established for the terms used in AT.4:

Base Rates are the lowest rates of payment for timber that are authorized by this contract. Base Rates remain constant throughout the life of this contract and are not subject to change by rate redetermination, except for reduction under DT.3.1, DT.3.2, or DT.3.3.

Advertised Rates are the minimum acceptable Bid Rates for timber, exclusive of Required Deposits. These rates are those indicated by appraisal, with a cost allowance made for construction of Specified Roads listed in AT.7, but are never less than Base Rates.

Bid Premium Rates are the amounts by which Contractor's bid is in excess of Advertised Rates. The Bid Premium Rates are constant during this contract, except as provided in DT.3.1, DT.3.2, and DT.3.3.

Bid Rates are the rates bid by Contractor (exclusive of Required Deposits for slash disposal and road maintenance) and are the sum of Advertised Rates and Bid Premium Rates. Until a rate redetermination becomes effective, the Bid Rate for species and products in AT.4.1 is the Tentative Rate that is subject to quarterly adjustment under DT.2; for species and products in AT.4.2, the Bid Rate is the Flat Rate.

Required Deposits are deposits that Contractor may be required to pay for slash disposal (16 USC 490) and road maintenance (16 USC 537). Required Deposits may be adjusted as part of a rate redetermination or a Contract Term Extension. The table shows only Required Deposits for slash disposal; road maintenance deposits, if any, are given in KT-FT.3.2#.

Base Index is the specified average of the lumber or other product selling value index used as the basis for computing adjustment in rates for variance in product selling value, as provided in DT.2.

AT.5 - Indices Used in Quarterly Adjustment, applicable to DT.2

Species	Index Name and Date
Not Applicable	

AT.6 - High Stumps, applicable to GT.4.1.2

Species	Product	Maximum Stump Height (Inches)
All	Sawtimber	14
All	Pulpwood	10

Contract Name: Gardner Pine Stewardship

Contract No:

AT.7 - Specified Roads, applicable to FT.2

Name and Date of Governing Road Specifications: Federal Highway Administration Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects(2003)-english

Project		Design Class	Approx. Length (mi./km.)	Sheet Numbers and Approval Date	Performance Responsibility		
Road No.	Name				Survey	Design	Construction Staking ^{1/}
849	FDR849 (R) (segment 0 to .02)	Single Lane - 15 mph	.02 / .03	SR-01 thru SR-36 10/05/2015	FS	FS	FS AC
863	FDR863 (R) (segment 0 to .02)	Single Lane - 15 mph	.02 / .03	SR-01 thru SR-36 10/05/2015	FS	FS	FS AC
864	FDR864 (R) (segment 0 to .02)	Single Lane - 15 mph	.02 / .03	SR-01 thru SR-36 10/05/2015	FS	FS	FS AC
865	FDR865 (R) (segment .46 to .48)	Single Lane - 15 mph	.02 / .03	SR-01 thru SR-36 10/05/2015	FS	FS	FS AC
865	FDR865 (R) (segment 0 to .02)	Single Lane - 15 mph	.02 / .03	SR-01 thru SR-36 10/05/2015	FS	FS	FS AC
866	FDR866 (R) (segment 0 to .02)	Single Lane - 15 mph	.02 / .03	SR-01 thru SR-36 10/05/2015	FS	FS	FS AC
867	FDR867 (R) (segment 0 to .02)	Single Lane - 15 mph	.02 / .03	SR-01 thru SR-36 10/05/2015	FS	FS	FS AC

^{1/} Indicate timing, i.e., before clearing (BC) or after clearing (AC). Applicable to FT.2.1.2

AT.8 - Forest Service Engineering Completion Schedule, applicable to FT.2.1

Road No.	Road Name	Type of Work	Completion Date
	Not Applicable		

AT.9 - Fire Precautionary Period, applicable to HT.2

April 01 to November 15, inclusive

AT.10 - Contractor Responsibility to Furnish Crews and Equipment for:

Initial Fire Suppression, applicable to HT.3

Within 5.0 road miles

Fire Suppression Reinforcement, applicable to HT.3.1.2 and HT.3.1.3

Within 20.0 road miles

AT.11 - Contractor's Obligation per Operations Fire, applicable to HT.4.1

Maximum Amount: \$ \$1,000

AT.12 - Termination Date, applicable to IT.2

August 31, 2019

AT.13 - Normal Operating Season, applicable to GT.3.1, GT.6.6, IT.2.1, and JT.3

First Period: July 15 to March 15, inclusive

Second Period: _____ to _____, inclusive

Contract Name: Gardner Pine Stewardship

Contract No:

AT.14 - Performance Bond, applicable to JT.1

Performance Bond Amount: _____

AT.15 - Downpayment, applicable to E.T.2.1.1

Downpayment Amount: Not Applicable

AT.16 - Periodic Payment Amount, applicable to ET.2.1.3

	<u>Periodic Payment Determination Date</u>	<u>Amount</u>
Initial Payment:	<u>N/A</u>	<u>N/A</u>
Additional Payment:	<u>N/A</u>	<u>N/A</u>

AT.17 - Market-Related Contract Term Addition Producer Price Index, applicable to IT.2.1.2

Index Name: Wood Chips Index Number: 3211135

AT.18 - Inapplicable Provisions

The following listed provisions are hereby made inapplicable. (Instructions: List by reference number and title.)

ET.4	PAYMENTS NOT RECEIVED
IT.2.1.2	MARKET-RELATED CONTRACT TERM ADDITION

AT.19 - List of Special Provisions in Part KT

The following listed special provisions are attached to and made a part of this contract. Provisions with reference numbers followed by # contain blanks into which data have been entered for this contract. (Instructions: List by reference number, title, and date.)

KT-CT.3.0.1#	PROTECTED AREAS (06/2009)
KT-CT.3.5.5#	INDIVIDUAL TREES, CUT TREE MARKING (06/2009)
KT-ET.4	PAYMENTS NOT RECEIVED (08/2012)
KT-FT.1.0.3#	APPROACHES TO SURFACED ROADS (06/2009)
KT-FT.1.2#	USE OF ROADS BY CONTRACTOR (09/2004)
KT-FT.3.1#	ROAD MAINTENANCE REQUIREMENTS (09/2004)
KT-FT.3.3#	SNOW REMOVAL (06/2009)
KT-GT.3.1.4#	OPERATING RESTRICTIONS (06/2009)
KT-GT.4.1.2	STUMP MARKS (06/2009)
KT-GT.4.2#	SKIDDING AND YARDING REQUIREMENTS (06/2009)
KT-GT.6.2#	SITE SPECIFIC WETLANDS PROTECTION MEASURES (09/2004)
KT-GT.6.3#	TEMPORARY ROAD CLOSURE (06/2009)
KT-GT.7#	SLASH DISPOSAL MEASURES (06/2009)
KT-GT.9#	STEWARDSHIP PROJECTS (09/2004)
KT-HT.2	FIRE PRECAUTIONS (06/2009)
KT-IT.2.1.2	MARKET-RELATED CONTRACT TERM ADDITION (11/2008)

Contract Name: Gardner Pine Stewardship

KT-CT.3.0.1# - PROTECTED AREAS (06/2009)

Notwithstanding the designations for cutting under CT.3.1, CT.3.3, CT.3.4, and CT.3.5, trees within the area to be protected in Payment Unit 003 shall be left uncut. Boundary trees along the perimeter of Protected Areas have been identified by 3 ORANGE paint slashes and "PA" at eye level (facing AWAY from the Protected Area), and painted at the stump. Boundary trees are not to be cut. Contract Area Map indicates with the symbol "PA" units within which Protected Areas are identified on the ground and are to be left uncut.

KT-CT.3.5.5# - INDIVIDUAL TREES, CUT TREE MARKING (06/2009)

Individual trees to be cut are Marked with indicated color above and below stump height in all or parts of the following Payment Units. Areas of Cut Tree Marking are shown on the Contract Area Map with the symbol "CTM."

PAYMENT UNIT(S)	PAIN T COLOR
-----------------	--------------

Contract Name: Gardner Pine Stewardship

KT-CT.3.5.5# - INDIVIDUAL TREES. (02/2008)

Cut Tree Marking Table

Payment Unit(s)	Paint Color(s)
01 - 08	BLUE
09 (Roads)	YELLOW

Contract Name: Gardner Pine Stewardship

KT-ET.4 - PAYMENTS NOT RECEIVED (08/2012)

(a) Payments are due and payable on the date of issue indicated on the bill for collection. When a payment for timber cut and other charges is not received at the location designated by Forest Service by the date specified in the bill for collection, Contracting Officer will suspend all or any part of Contractor's Operations until payment or acceptable payment guarantee is received. Other charges include, but are not limited to:

- (i) Slash disposal and road maintenance deposits;
- (ii) Cooperative work at rates established by specific agreement under ET.2.1.8;
- (iii) Damages pursuant to JT.4;
- (iv) Road use fees;
- (v) Restoration of downpayment pursuant to ET.2.2;
- (vi) Periodic payments pursuant to ET.2.1.3;
- (vii) Extension Deposits pursuant to ET.2.1.7; and
- (viii) Other mandatory deposits.

(b) Failure to pay amounts due by the date specified in the bill for collection shall be considered a breach under JT.3. The 30-day notice period prescribed therein shall begin to run as of the end of business on the date specified for receipt of payments. If the performance or payment is guaranteed by surety bond, the surety will receive a copy of the written notification of breach. Demand will be made on the surety or other institution providing the guarantee or bond instrument for immediate payment 10 days after issuance of written notification of the breach.

(c) Pursuant to the Debt Collection Improvement Act of 1996, as amended, if payment is not received by Forest Service within 15 days after the date of issue indicated on the bill for collection:

(i) Simple interest shall be assessed at the Current Value of Funds Rate as established by the Secretary of the Treasury. Interest will begin to accrue as of the date of issue indicated on the initial bill for collection.

(ii) Debtors will be assessed administrative charges, in addition to the delinquent amount due. Administrative charges are those additional costs incurred by the Government in processing, handling, and collecting delinquent debts.

(iii) A penalty charge of six (6) percent per annum will be assessed on any portion of a debt delinquent more than 90 days. This penalty charge is in addition to interest and administrative charges under paragraphs (c) (i) and (c) (ii). The penalty charge shall accrue from the date of issue indicated on the bill for collection and shall be assessed on all outstanding amounts, including interest and administrative costs assessed under paragraphs (c) (i) and (c) (ii).

(iv) Payments will be credited on the date received by the Federal Depository or Collection Officer designated on the bill for collection.

(d) Forest Service remedies for Contractor's failure to make payment for timber cut and other charges when due, except for accrual of interest, suspension of all or any part of Contractor's Operations, and administrative offset, shall be stayed for so long as:

- (i) A bona fide dispute exists as to Contractor's obligation to make such payment and
- (ii) Contractor files and prosecutes a timely Claim.

KT-FT.1.0.3# - APPROACHES TO SURFACED ROADS (06/2009)

Contractor shall apply and maintain 4 inches of 22-A crushed gravel on all Temporary Road approaches to surfaced roads for a distance of 50 feet (or as directed by the Forest Service) feet back from the surfaced road. Surfaced roads include those with:

gravel, crushed rock, asphalt

Contract Name: Gardner Pine Stewardship

KT-FT.1.2# - USE OF ROADS BY CONTRACTOR (09/2004)

Contractor's use of existing roads identified on Contract Area Map by the following codes is prohibited or subject to restrictive limitations, unless agreed otherwise:

Code	Use Limitations
X	Hauling prohibited
R	Hauling restricted
U	Unsuitable for hauling prior to completion of agreed reconstruction
P	Use prohibited
A	Public use restriction
W	Regulation waiver

Roads coded A will be signed by the Forest Service to inform the public of use restrictions. Contractor's use of roads coded R, A, or W shall be in accordance with the following restrictions:

See Restricted Road List Table.

FS-2400-13T (09/04)

WO-KT-FT.1.2# - USE OF ROADS BY CONTRACTOR. (09/04)

Restricted Road List

Road Number	Road Name	Termini		Map Legend	Description of Restrictions
		From	To		
847	FR 847	POB	POE	X	Hauling Prohibited
849	FR 849	MP 0.00	MP 0.02	U	Unsuitable for Hauling Prior to Required Road Reconstruction
849	FR 849	MP 0.73	POE	X	Hauling Prohibited
863	FR 863	MP 0.00	MP 0.02	U	Unsuitable for Hauling Prior to Required Road Reconstruction
863	FR 863	0.39	POE	P	Use Prohibited
864	FR 864	MP 0.00	MP 0.02	U	Unsuitable for Hauling Prior to Required Road Reconstruction
865	FR 865	MP 0.00	POE	U	Unsuitable for Hauling Prior to Required Road Reconstruction
866	FR 866	MP 0.00	MP 0.02	U	Unsuitable for Hauling Prior to Required Road Reconstruction
866	FR 866	MP 0.07	POE	X	Hauling Prohibited
867	FR 867	MP 0.00	MP 0.02	U	Unsuitable for Hauling Prior to Required Road Reconstruction

POB = Point of Beginning
 POE =Point of Ending

Note: "Hauling" includes empty or loaded log trucks.

Contract Name: Gardner Pine Stewardship

KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS (09/2004)

Contractor shall maintain roads in accordance with the following Contract Road Maintenance Requirements Summary:

See Contract Road Maintenance Requirements Summary Table.

Contract Name: Gardner Pine Stewardship

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FS-2400-13T (09/04)

WO-KT-FT.3.1# – ROAD MAINTENANCE REQUIREMENTS. (09/04)

Contract Road Maintenance Requirements Summary

Road	Termini		Miles	Applicable Prehaul Road Maintenance Specifications							
	From	To		T-8030	T-8130	T-8310	T-8340	T-8350	T-8360	T-8420	T-8620
849	0.02	0.73	0.71		P	P	P		P	P	
863	0.02	0.39	0.37		P	P			P	P	
864	0.02	0.82	0.80		P	P			P	P	
865	0.02	0.46	0.44			P			P	P	
866	0.02	0.07	0.05		P	P			P	P	
867	0.02	0.21	0.19			P			P	P	

P = Purchaser Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

Road	Termini		Miles	Applicable During Haul Road Maintenance Specifications							
	From	To		T-8030	T-8130	T-8310	T-8340	T-8350	T-8360	T-8420	T-8620
849	0.00	0.73	0.73	P	P ^{1/}	P	P		P		
863	0.00	0.39	0.39	P	P ^{1/}	P			P		
864	0.00	0.82	0.82	P	P ^{1/}	P			P		
865	0.00	0.48	0.48	P	P ^{1/}	P			P		
866	0.00	0.10	0.10	P	P ^{1/}	P			P		
867	0.00	0.21	0.21	P	P ^{1/}	P			P		

P = Purchaser Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party
 P^{1/} 100 CY (130 CY loose) to be spot placed as directed by Forest Service

Road	Termini		Miles	Applicable Post Haul Road Maintenance Specifications							
	From	To		T-8030	T-8130	T-8310	T-8340	T-8350	T-8360	T-8420	T-8620
849	0.00	0.73	0.73			P	P	P	P		P
863	0.00	0.39	0.39			P		P	P		P
864	0.00	0.82	0.82			P		P	P		P
865	0.00	0.48	0.48			P		P	P		P
866	0.00	0.10	0.10			P		P	P		
867	0.00	0.21	0.21			P		P	P		P

P = Purchaser Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

Contract Name: Gardner Pine Stewardship

KT-FT.3.3# - SNOW REMOVAL (06/2009)

Snow removal shall be done in a manner that will preserve and protect roads, provide for safe and efficient transport of timber, and prevent erosion damage to streams and adjacent lands. In performing snow removal, Contractor shall adhere to the following performance standards, unless otherwise agreed:

Blade will be equipped with skid shoes to prevent loss of surfacing and damage to the road bed. On gravel and native surface roads, a minimum 4-inch depth compacted snow mat shall be maintained on the roadbed during blading.

Snow shall be removed from the entire road width, including turnouts.

Snow berms shall be reduced at road intersections where plowed road segments join unplowed road segments. Reduce the piled snow in the roadway to create a smooth transition from plowed road to normal snow depth.

Openings shall be created in snow berms as needed for proper drainage. Remove snow, ice, and debris from culverts and other drainage structures as needed to ensure efficient flow of water.

Tracked or cled vehicles shall not be used for snow removal without prior written approval of Forest Service Representative.

KT-GT.3.1.4# - OPERATING RESTRICTIONS (06/2009)

Within Contract Area, unless changed by written agreement, the following operating requirements apply:

Restricted operations/activities:

Payment Units 001 - 005: Purchasers operations are restricted during the period of 3/16 through 7/31 (due to soils and protection of residual stems), AND 9/01 through 12/14 (due to soils).

Payment Units 006 - 008: Purchasers operations are restricted during the period of 3/16 through 7/14 (due to soils and protection of residual stems).

Within the Contract Area, decked pine and other conifer material must be removed from the Contract Area within 30 days of cutting to minimize the potential breeding areas for pine beetles during the period of May 1 thru September 30.

Prohibited operations/activities:

N/A

KT-GT.4.1.2 - STUMP MARKS (06/2009)

Trees designated for cutting under CT.3.5 have been marked with paint at breast height and below stump height. Trees shall be felled so as to leave paint on stump.

Contract Name: Gardner Pine Stewardship

KT-GT.4.2# - SKIDDING AND YARDING REQUIREMENTS (06/2009)

As used in this provision, skidding equipment includes rubber-tire and track-mounted skidders, forwarders, bunchers, processors, and any other mechanized equipment that is used off of landings and roads.

Within Payment Unit(s), as shown on Contract Area Map with symbol "SYR": 003, 004 & 005

Within portions of Payment Unit(s), as shown on Contract Area Map with symbol "SYR" and cross-hatching:

Equipment crossing the North Country hiking trail is only permitted at locations designated by the Forest Service, and harvested products that are skidded across the hiking trail must be fully suspended above the ground.

KT-GT.6.2# - SITE SPECIFIC WETLANDS PROTECTION MEASURES (09/2004)

Measures needed to protect wetlands identified on the Sale Area Map or on the ground include:

All equipment, vehicles, and logging slash are prohibited from these areas. Any logging slash that falls within these areas shall be removed or treated, as directed by the Forest Service.

KT-GT.6.3# - TEMPORARY ROAD CLOSURE (06/2009)

In addition to GT.6.3, measures to effectively block temporary roads to normal vehicular traffic shall consist of the following:

Berm will be placed at an angle of 30 to 45 degrees, relative to the road. Dig a trench, 12 to 18 inches below the surface of the road or trail, and extend it to both sides of the road to prevent runoff from bypassing the berm/waterbar. The uphill end should extend beyond the side ditch of the road and into the earth berm to intercept any ditch flows. The outflow end is to be fully open and extended far enough beyond the edge of the road or trail to safely disperse runoff onto the undisturbed forest floor. When placement of the closure device does not require the berm to also function as a waterbar for drainage, the trench will not be required. Height of the berm will be approx 4 feet. Rocks/boulders, logging slash, cull logs, and stumps may be incorporated into the ridge of earth during construction as long as proper drainage is maintained and the road is completely blocked, unless otherwise agreed in writing.

Contract Name: Gardner Pine Stewardship

KT-GT.7# - SLASH DISPOSAL MEASURES (06/2009)

Slash resulting from Contractor's operations shall be removed from lakes, ponds, private land, right-of-way clearings for telephone lines, power lines, pipelines and other authorized facilities, and landings to be seeded under KT-GT.6#.

The tops of trees shall not be left hanging in standing trees. All trees cut for landing and other construction clearings shall be completely severed and not left leaning. Slash resulting from construction clearing shall be treated concurrent with harvest operations.

Other specific slash disposal requirements are as follows:

SDZ - as shown on Contract Area Map for Payment Units 001-009. Slash resulting from construction clearing (such as from landings, temporary roads, ROW clearing associated with pre-haul road maintenance requirements listed in CT5.31#), including Specified Road construction, shall be lopped and scattered to lie within 3 feet of the ground. All root wads will be severed from the stem and righted on the ground or otherwise disposed of as directed by the Forest Service, concurrent with operations.

SDZ(1) - Shown on Contract Area Map, ALONG BOTH SIDES OF THE NORTH COUNTRY TRAIL in Payment Units 003, 004 and 005, a strip measuring 50 feet in width from the center of the trail, all slash shall be lopped and scattered to lie within 2 feet of the ground, concurrent with operations.

SDZ(2) - Shown on the Contract Area Map in Payment Units 001-008 - All slash resulting from Purchaser's operations shall either be 1) left at the stump when severed from the merchantable portion of the stem, 2) delimbbed in place when bunched with processor-type equipment prior to skidding/forwarding to a central processing point, or 3) spread back evenly across the payment unit, concurrent with operations.

Slash incorporated into closure berms is NOT included in the above described SDZ and SDZ(2) requirements.

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Slash Disposal treatment zones are shown on the Contract Area Map with symbol "SDZ."

KT-GT.9# - STEWARDSHIP PROJECTS (09/2004)

Performance of stewardship projects shall be in accordance with the following specifications.

Stewardship Projects

Contract Name: Gardner Pine Stewardship

KT-GT.9# - STEWARDSHIP PROJECTS. (09/2004)

Stewardship Projects

Mandatory Stewardship Projects		
Project Number	Project Description	Specification Pages
GC-010	Gate Closure (removal of gate and resting post) ¹	RD-1, RD-4 and RD-5; SR-9 through SR-36
GC-011	Gate Closure (installation of gate and resting post) ¹	RD-1, RD-4 and RD-5; SR-9 through SR-36
RR-010	Road Rehabilitation	RD-1, RD-4 and RD-6; SR-9 through SR-36
RM-010	Road Mowing	RD-2 and RD-4; SR-9 through SR-31
BC-010	Road Decommissioning (Berm Closure)	RD-2, RD-4 through RD-6; SR-9 through SR-36
BC-011	Road Decommissioning (Berm Closure)	RD-2, RD-4 through RD-6; SR-9 through SR-36
SC-010	Road Decommissioning (Slash Closure)	RD-3, RD-5 and RD-6; SR-9 through SR-36

¹ – GC-010 & GC011 to be completed after RM-010, RR-010, BC-010, BC011 & SC-010.

Contract Name: Gardner Pine Stewardship

KT-HT.2 - FIRE PRECAUTIONS (06/2009)

Unless otherwise agreed in writing between the Contractor and the Contracting Officer, the following are specific precautionary measures applicable during Contractor's Operations in Fire Precautionary Period as indicated in AT.9:

1. Contractor shall maintain Forest Service-approved spark arresting devices on any piece of equipment operated by an internal combustion motor. In addition, each piece of motorized equipment shall be equipped with a serviceable round-pointed shovel and an operational fire extinguisher of at least five-pound rating suitable for the equipment being used. All chainsaw operators will have a serviceable round-pointed shovel and one-pound multipurpose fire extinguisher readily available.
2. Contractor shall require that smoking and the building of lunch or warming fires by Contractor's employees, contractors, or subcontractors be confined to designated safe places where flammable debris has been cleared away and where, at the option of the Contractor, smoking or the building of lunch or warming fires may be permitted.
3. Adequate spark arresters shall be maintained on chimneys or stovepipes where wood or coal is being burned in an enclosed device.
4. Contractor shall furnish serviceable firefighting tools. Location, numbers, and types of tools shall be specified in the Fire Prevention and Control Plan in accordance with HT.1.

KT-IT.2.1.2 - MARKET-RELATED CONTRACT TERM ADDITION (11/2008)

The term of this contract may be adjusted when a drastic reduction in wood product prices has occurred in accordance with 36 CFR 223.52. The Producer Price Index used to determine when a drastic reduction in price has occurred is stated in AT.17. Contractor will be notified whenever the Chief determines that a drastic reduction in wood product prices has occurred. If the drastic reduction criteria specified in 36 CFR 223.52 are met for 2 consecutive calendar quarters, after contract award date, Contracting Officer will add 1 year to the contract term, upon Contractor's written request. For each additional consecutive quarter such a drastic reduction occurs, Contracting Officer will, upon written request, add an additional 3 months to the term during Normal Operating Season, except that no single 3-month addition shall extend the term of the contract by more than one year. Contracting Officer must receive Contractor's written request for a market-related contract term addition before the expiration of this contract.

No more than 3 years shall be added to a contract's term by market-related contract term addition unless the following conditions are met:

(i) The contract was awarded after December 31, 2006; and

(ii) A drastic reduction in wood product prices occurred in at least ten of twelve consecutive quarters during the contract term, but not including the quarter in which the contract was awarded.

For each qualifying quarter meeting the criteria in paragraphs (i) and (ii) of this provision, the Forest Service will, upon the Contractor's written request, add an additional 3 months during the normal operating season to the contract, except no single 3-month addition shall extend the term of a contract by more than 1 year.

In no event shall a revised contract term exceed 10 years as a result of market-related contract term addition.

Additional contract time may not be granted for those portions of the contract that have a required completion date or for those portions of the contract where Contracting Officer determines that the timber is in need of urgent removal or that timber deterioration or resource damage may result from delay.

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)
WO-KT-FT.3.1# Special Provisions

SECTION 1. GENERAL

Purchaser's main Road Maintenance responsibility begins: (1) after Purchaser performs Prehaul Maintenance on a road listed in the Road Maintenance Requirements Schedule; or (2) for all other roads, when Purchaser begins to use the road. Occasional travel by Purchaser's light vehicles, prior to beginning of construction clearing or logging operations in the area accessed by the road, does not constitute beginning of use. Purchaser is not required to perform routine maintenance during periods of inactivity. During periods of inactivity, Forest Service will perform maintenance only as required to meet its needs.

The Purchaser shall maintain roads, commensurate with the Purchaser's use, in accordance with the Road Maintenance Requirements Summary and Road Maintenance Specifications. Performance of road maintenance work by the Purchaser may be required prior to, during, or after each period of use. The timing of work accomplishment shall be based on the Purchaser's operating schedule under Standard Provision **GT.3.1**.

If the Purchaser elects to use different roads than those listed in the Road Maintenance Requirements Summary, the Contracting Officer (CO) or designee shall determine the Purchaser's commensurate share of road maintenance and/or revise road maintenance deposits.

Unless the CO or designee agrees in writing, all Prehaul Maintenance requirements shall be completed on any portion of road prior to hauling on that portion.

The Forest Service shall prepare a revised Road Maintenance Requirements Schedule to reflect changes in the original haul routes when needed.

Any work or materials that are determined to no longer be needed and are waived shall have the estimated cost charged to the Timber Sale Account as described in **IT.3.3**.

SECTION 2. ROAD MAINTENANCE DEFINITIONS

Wherever the following terms are used in the Road Maintenance Specifications, the meaning shall be:

Base Course. Material placed on the Subgrade to distribute concentrated wheel loads.

Borrow. Select Material taken from designated borrow sites.

Crown, Inslope, and Outslope. The cross slope of the Traveled Way to aid in drainage and traffic maneuverability.

Culverts. A conduit or passageway under a road, trail, or other obstruction. A culvert differs from a bridge in that it is usually entirely below the elevation of the Traveled Way.

Drainage Dip. A dip in the Traveled Way which intercepts surface runoff and diverts the water off the Traveled Way. A Drainage Dip does not block the movement of traffic.

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04) WO-KT-FT.3.1# Special Provisions

Drainage Structures. Manufactured structures which control the runoff of water from the Roadway including Inslope, overside drains, aprons, flumes, downdrains and downpipes.

During Haul Maintenance. Road maintenance work to be accomplished during the period of timber removal.

Geotextile. A group of construction fabrics with varying attributes designed for different purposes.

Lead-off Ditches. A ditch used to transmit water from a Culvert, Drainage Structure or Drainage Dip outlet to the natural drainage area.

Maintenance Activity. Items of work leading to the restoration and upkeep of a road and necessary to sustain the road's anticipated traffic.

Material. Any substance specified for use in the performance of the work.

Post Haul Maintenance. Road maintenance work to be accomplished after timber removal is completed.

Prehaul Maintenance. Road maintenance work to be accomplished prior to the roads use. Roads receiving prehaul maintenance shall be shown on the Sale Area Map.

Road Maintenance Cost. An estimate of the cost to perform road maintenance activities; as determined by the Forest Service. Estimates may include any or all of the work activities listed in Section 4, Road Maintenance Activity Specifications.

Roadbed. The portion of a road between the intersection of Subgrade and sideslopes, excluding that portion of the ditch below Subgrade.

Roadside. A general term denoting the area adjoining the outer edge of the Roadway.

Roadway. The portion of a road within the limits of excavation and embankment.

Sand Hole. A hole that develops in the running surface of the road which is quite soft and dangerous in nature. Usually found in very sandy soils.

Shoulder. That portion of Roadway contiguous with Traveled Way for accommodation of stopped vehicles, for emergency use, and lateral support of Base and Surface Course, if any.

Slide. A concentrated deposit of materials from above or on backslope extending onto the Traveled Way or Shoulders, whether caused by mass land movements or accumulated ravelling.

Slough. Material eroded from the backslope which partially or completely blocks the ditch, but does not encroach on the Traveled Way so as to block passage of traffic.

Slump. A localized portion of the Roadbed which has slipped or otherwise become lower than that of the adjacent Roadbed and constitutes a hazard to traffic.

Subgrade. Top surface of Roadbed upon which Base Course or Surface Course is constructed. For roads without Base Course or Surface Course, that portion of Roadbed prepared as the finished wearing surface.

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

Surface Course. The Material placed on the Base Course or Subgrade to enhance traction, distribute concentrated wheel loads and resist abrasion and the effects of climate. Surface Course may be referred to as surfacing.

Traveled Way. That portion of Roadway, excluding Shoulders, used for the movement of vehicles.

Turnouts. That portion of the Traveled Way constructed as additional width on single lane roads to allow for safe passing of vehicles.

SECTION 3. ROAD MAINTENANCE REQUIREMENTS SCHEDULE

See WO-KT-FT.3.1# Summary Table. Page 49

SECTION 4. ROAD MAINTENANCE SPECIFICATIONS

INCLUDED SPECIFICATIONS

<u>Specification No.</u>	<u>Specification Title</u>
T-8030	Snow Removal
T-8130	Spot Surface Course Placement/Replenishment
T-8310	Ditch Cleaning
T-8340	Drainage Structure Maintenance
T-8350	Roadway Drainage Maintenance
T-8360	Composite High Clearance Road Maintenance
T-8420	Cutting Roadway Vegetation
T-8620	Miscellaneous Maintenance

T-8030 Snow Removal

DESCRIPTION

- 1.1 This Section provides for removal of snow from roads to facilitate logging operations and safe use. Remove snow from all or part of the traveled way, including sufficient turnouts for safe and efficient use for timber transportation and to protect the road. Remove intruding windfalls, debris or slough and slide material and dispose of only as necessary to provide passage for timber transportation. Removed materials may be deposited off the traveled way or outside the traveled way at locations designated by the Forest Service Representative (FSR). Snow may also be compacted as needed to freeze down soft areas or wet areas. This work is considered part of this specification. Equipment used for this work shall be in accordance with this specification and approved in advance by the FSR.

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04) WO-KT-FT.3.1# Special Provisions

EQUIPMENT

- 2.1 Purchaser may use any type of equipment to remove snow, providing:
- Type or use of equipment is not restricted in **CT5.12#** or Schedule document.
 - Equipment is of the size and type commonly used to remove snow and will not cause damage to the road. Tracked or cleated vehicles shall not be used unless approved in writing by the FSR.
 - The Blade will be equipped with skid shoes to prevent loss of surfacing and damage to the road bed. On gravel and native surface roads, a minimum 4 -inch depth compacted snow mat will be maintained on the roadbed during blading.

REQUIREMENTS

- 3.1 Erect signs required by the Sign Plan in the SUPPLEMENTAL SPECIFICATIONS or as shown on the Section 3. Road Maintenance Requirements Schedule. Perform work in a manner to preserve and protect roads and appurtenances, and prevent erosion damage to roads, streams, and other forest values.
- 3.2 Space, construct, and maintain drainage holes in the dike of snow or berm caused by snow removal operations. Place drain holes to obtain surface drainage without discharging on erodible fills.
- 3.3 Upon seasonal completion of Purchaser's Operations, effectively block the road by a snow barricade, unless otherwise approved by the Contracting Officer.
- 3.4 Ice control may be performed by Purchaser when approved by the FSR in writing. Such approval will include ice control materials, application rates, and any specific requirements of use.
- 3.5 Snow berms will be reduced at road intersections where plowed road segments join unplowed road segments. Reduce the piled snow in the roadway to create a smooth transition from plowed road to normal snow depth.

T-8130 Spot Surface Course Placement/Replenishment

DESCRIPTION

- 1.1 Spot Surface Course Placement/Replenishment includes Subgrade preparation, furnishing, hauling, spreading and shaping materials in accordance with the requirements.

MATERIALS

- 2.1 Surface Course Material will be in accordance with the subsection 3.2 of these specifications. Only commercial sources of aggregate will be accepted, except surfacing material may also be purchased from the government, where available, by filling out a form 2600, paying the required fees, and obtaining a permit.

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

REQUIREMENTS

3.1 Subgrade Preparation. Prepare Subgrade to receive Surface Course Material at locations as designated on-the-ground by the Forest Service on roads listed below. Prepare the Subgrade by shaping the Roadbed to approximately the original cross-section and consistent with adjacent sections.

3.2 Furnish, haul and spread Material at locations designated on the ground by the Forest Service (FS). Compact the aggregate by operating spreading and hauling equipment over the full width of each layer of the aggregate, or by other methods as specified below.

Road Number	Type Material	Finished Compacted Thickness Specified	Total Quantity (Tons or cu.yds.)	Compaction Method
849 (MP 0.22)	Pit Run Gravel ^{1/}	Surface Turnaround & Radii	15 CY (19.5 CY) ^{2/}	See 3.2 Above
849 (MP 0.54)	Pit Run Gravel ^{1/}	Surface Turnaround & Radii	15 CY (19.5 CY) ^{2/}	See 3.2 Above
849 (MP 0.71)	Pit Run Gravel ^{1/}	Surface Turnaround & Radii	15 CY (19.5 CY) ^{2/}	See 3.2 Above
863 (MP 0.09)	Pit Run Gravel ^{1/}	Surface Turnaround & Radii	15 CY (19.5 CY) ^{2/}	See 3.2 Above
863 (MP 0.37)	Pit Run Gravel ^{1/}	Surface Turnaround & Radii	15 CY (19.5 CY) ^{2/}	See 3.2 Above
864 (MP 0.26)	Pit Run Gravel ^{1/}	Surface Turnaround & Radii	15 CY (19.5 CY) ^{2/}	See 3.2 Above
864 (MP 0.54)	Pit Run Gravel ^{1/}	Surface Turnaround & Radii	15 CY (19.5 CY) ^{2/}	See 3.2 Above
864 (MP 0.80)	Pit Run Gravel ^{1/}	Surface Turnaround & Radii	15 CY (19.5 CY) ^{2/}	See 3.2 Above
866 (MP 0.05)	Pit Run Gravel ^{1/}	Surface Turnaround & Radii	15 CY (19.5 CY) ^{2/}	See 3.2 Above
867 (MP 0.19)	Pit Run Gravel ^{1/}	Surface Turnaround & Radii	15 CY (19.5 CY) ^{2/}	See 3.2 Above
Any Maintenance Segment Within Sale Area	Pit Run Gravel ^{1/}	To Be Placed as Directed by USFS (During Haul Road Maintenance).	100 CY (130 CY) ^{2/}	See 3.2 Above

^{1/} Furnish, Haul, Place. Material must be approved prior to placement (No Government Source Available).

^{2/} Quantity of material in () is the approximate loose volume.

3.3 Variations. The Purchaser will be required to furnish weight tickets to the FS for each load of commercially obtained crushed aggregate prior to the final inspection. For aggregate purchased from the government, a count of truck loads will be required in addition to finished depth checks for the placed and compacted aggregate. Widths and lengths will be as staked or from schedule. When it is mutually agreed that all or part of the Surface Course

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

Material is not needed, the estimated cost of surfacing not placed shall be charged to the Timber Sale Account in accordance with **IT.3.3**.

T-8310 Ditch Cleaning

DESCRIPTION

- 1.1 Ditch cleaning is the removal and disposal of all accumulated organic and Slough Material from Roadway ditches to provide a positive draining waterway of uniform width, depth, and grade.

REQUIREMENTS

- 3.1 Ditch cleaning shall be repeated during sale operations as often as necessary to facilitate proper drainage.
- 3.2 All Slough Material or other debris which might obstruct water flow in the Roadway ditch shall be removed. Material removed from ditches that are not suitable for blending into the existing surface course shall be disposed of in places agreed to in writing by the FSR.
- 3.3 Roadway back slopes shall not be undercut.

T-8340 Drainage Structure Maintenance

DESCRIPTION

- 1.1 This work consists of maintaining and/or installation/removal of Drainage Structures and related items such as: inlet and outlet channels, existing riprap, trash racks, necessary geotextiles, pipes, and drop-inlets.

MATERIALS

- 2.1 All Materials used in the maintenance and/or installation/removal of Drainage Structures shall conform by type and specification to the Material in the structure being maintained or as indicated in the subsection 3.3 below.

REQUIREMENTS

- 3.1 Drainage Structures and related items shall be cleared of all foreign Material deposited above the bottom of the structure and all vegetative growth which interferes with the water flow. Material removed that cannot be incorporated into maintenance work shall be uniformly placed on fill slopes unless agreed otherwise.
- 3.2 Perform maintenance to insure the proper functioning of the head walls, aprons, inlet assemblies, riprap, trash racks and other facilities related to the Drainage Structure.

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

- 3.3 Install/remove ditches, drainage dips, rock crossings and/or culverts as shown below, and as marked on the ground. Installation of structures shall not begin without the presence of a FSR unless agreed to in writing by the FSR.
- 3.4 Installation shall be in accordance with construction industry standards and practices.
- 3.5 Culverts designated for removal/disposal shall become the property of the Purchaser and shall be disposed of properly.
- 3.6 Temporary culverts provided by the USFS shall remain the property of the government.
- 3.7 Bridges. Any miscellaneous parts needing repair or replacement during normal use of any bridge during haul shall be considered maintenance. This includes minor items such as object markers, running planks that have loosened or cracked deck boards, or drainage structures which may become plugged. Bridge decks that are dirt and dust covered shall be cleaned to allow for proper drainage and for safety of the user.

T-8350 Roadway Drainage Maintenance

DESCRIPTION

- 1.1 This work consists of providing Post Haul drainage on roads.

MATERIALS

- 2.1 All Materials used in the maintenance and/or installation/removal of Drainage Structures shall conform by type and specification to the Material in the structure being maintained, or as indicated in subsection 3.3.

REQUIREMENTS

- 3.1 Upon completion of work, shape the roadway to provide for the removal of surface water. The roadway need not be passable to vehicles (ML-1 roads). Repair and reinstall waterbars, barriers or berms existing prior to the Purchaser's operation. Areas where water is ponded by existing centerline profile sags in through cuts may be left untreated.
- 3.2 Any of the following methods are acceptable for use at eroded or rutted locations:
- (a) Method A: Outsloping the roadbed at not less than ½ inch per yard of width.
 - (b) Method B: Insloping the roadbed at not less than ½ inch per yard of width.
 - (c) Method C: Water bar roadbed at locations staked on the ground and construct as shown on the enclosed detail.
 - (d) Method D: Crown the roadbed as shown in the attached detail as the typical section for that length of road.

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

- 3.3 Drainage structures located in roadbed through fills and natural watercourses shall be fully functional without obstructions, including inlet and outlet channel within 20 feet of the structure. **(All structures within termini indicated in WO-KT-FT.3.1# Summary Table).**
- 3.4 Entrance Devices. Upon completion of work, replace entrance devices to effectively eliminate access by motorized vehicles (ML-1).
- 3.5 Seed and fertilize all disturbed areas in accordance with requirements set forth in T-8410 Vegetation Establishment.

T-8360 Composite High Clearance Road Maintenance

DESCRIPTION

- 1.1 This work consists of making limited use roads passable for project use by Purchaser and providing drainage from the traveled way and roadbed.

MATERIALS

- 2.1 Required materials are listed in subsection 3.2.

REQUIREMENTS

3.1 Traveled Way

A. Purchaser may smooth or fill existing cross ditches and waterbars and, by agreement, modify existing road junction to enable vehicle access. Prior to beginning haul and resumption of haul after an extended stoppage:

1. Remove brush, fallen trees, rocks, and other debris from traveled way, including turnouts, turnarounds, and other locations that interfere with needed maintenance. No object extending over 4 inches above the road surface shall remain within the 12 feet usable traveled way.
2. Center the usable width of the roadbed or position away from the fill slope.
3. Cut and remove standing or down trees, logs, brush, and limbs from within the 12 feet usable traveled way. Remove encroaching limbs to a height of 14 feet above the traveled way surface. Scatter material not meeting utilization standards outside and below the roadbed on the fill side. Limb and remove designated timber which meets utilization standards or deck at agreed locations.
4. Place all removed material away from drainages and in locations previously agreed to in writing by the FSR.
5. During use, maintain drainage structures including dips, ditches and culverts in a usable condition and surface in a flat, Insloped or Outsloped, or Crowned usable condition, **per**

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

Typical Drawing.

3.2 Drainage Facilities. Clean and recondition drainage facilities in accordance with T-8310 Ditch Cleaning and T-8340 Drainage Structure Maintenance. **Maintain all structures per 3.1, Item 5 above within termini indicated in WO-KT-FT.3.1# Summary Table.**

3.3 Slough and Slides

1. Slough and Slides may be left in place provided surface drainage is adequately provided and at least 12 feet of width is available for vehicle passage.
2. Purchaser may reposition or ramp over Slides and Slough when the Traveled Way is less than 12 feet providing the material is capable of supporting vehicles. Limit Outslope to no more than six percent.
3. Reposition Slough or Slide materials, which are not capable of supporting a vehicle, on the roadbed to provide the 12 feet width. When directed by Forest Service, Slough or Slide material will be removed under Section T-8320 Slide, Slump, and Erosion Repair.

3.4 Slumps, Eroded areas, and Washouts

1. Drain the roadbed immediately upgrade of Slumps and longitudinal cracks to prevent water from entering Slump area.
2. Slumps and longitudinal cracks at the edge of the roadbed shall not be considered a part of the usable width. Usable width may be reduced to ten feet in the area of the Slump.
3. Unless Forest Service agrees to material being placed on Slumps, ramp the Slumps on both ends into undisturbed roadbed to provide at least ten feet usable width. Use removed materials to guide vehicles to the ramp location or to aid in draining the area.
4. Eroded areas/washouts may be filled with suitable material and compacted by operating equipment over the fill area.

3.5 Posthaul

A. At the end of hauling or prior to entering into seasonal shutdowns or a period of extended inactivity:

1. Shape the traveled way and disturbed roadbed to provide functional drainage.
2. Reinstall removed cross ditches and waterbars and provide any additional drainage structures necessary to offset changes caused through use and maintenance.
3. Leave roads useable for high clearance vehicles. Remove or reshape Purchaser modifications at road junctions to leave the entrance as it was before use, or as agreed at the time of improvement.
4. Close all roads which were closed previously, using prior existing methodology.

T-8420

Cutting Roadway Vegetation

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

DESCRIPTION

- 1.1 This work includes removal of brush, trees and other vegetative growth from within the clearing limits. This may include brush mowing of shoulders to prevent larger growth which would inhibit travel in the future.

EQUIPMENT

- 2.1 Equipment use may include farm tractor mounted mowing or brushing equipment. If brushing equipment is required it must be of a size and power to cut off and masticate stems up to four inches in diameter. Larger growth may require hand clearing with a chainsaw or mechanized equipment able to handle larger trees.

REQUIREMENTS

- 3.1 Vegetative matter within the Roadway which impedes vehicular travel, and/or interferes with road maintenance operations, such as surface blading and ditch and culvert cleaning shall be removed. Downed timber meeting utilization standards shall be cut in appropriate lengths and decked in locations where agreed upon and the Traveled Way or sight distances will not be impaired.
- 3.2 Vegetative matter removed from the clearing limits shall be scattered outside the clearing limits at least 3 (and lopped to within 3 feet of ground) feet perpendicular to the road surface.
- 3.3 Trim tree branches that extend over the road surface and shoulders to attain a clear height of 14 feet. Trim branches flush with the tree or as close as possible without causing damage or scarring to the bole. Area shall be left neatly trimmed.
- 3.4 Any stump removed shall be placed in an upright position out of the clearing limits.
- 3.5 Area shall not be left in an unsightly condition. The FSR shall have the final say over how the area is left.

T-8620 Miscellaneous Maintenance

DESCRIPTION

- 1.1 Maintenance of miscellaneous structures includes cattle guards, gates (this includes all types of closure devices such as logs, rocks, dirt berms, dirt and slash berms, metal gates, etc), signs, and other similar structures that have been previously installed to insure safe and efficient operation of the road.

MATERIALS

- 2.1 Any Materials needed in the maintenance of miscellaneous structures shall be similar in type and quality to the Material in the structure being maintained.

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

REQUIREMENTS

3.1 Cattle guards. Loose rails shall be welded or bolted back in place.

3.2 Gates (and other closure devices). Gates shall be kept in good repair and made to swing easily. Hinges or latches shall be repaired if not operating properly. Brush and debris shall be removed from within the swinging radius. Weathered berms or wood piles shall be reconstructed to a height which discourages use and blocks the road.

3.3 Signs. Any signs needing repair or replacement shall be installed per sign placement detail or MUTCD direction. All roads shall have legible sign numbers. ML 3-5 roads shall have horizontal numbering and ML 1-2 roads shall have vertical numbers. The material used shall be as directed by the Forest Service Representative. All new signs must meet retroreflectivity requirements.

Road Number	Road Name	Location	Remove/Install	Type of Item	Size	Quantity
849	849	1/, 2/	Install	Berm ^{3/}	4/	1
863	863	1/, 2/	Install	Berm ^{3/}	4/	1
864	864	1/, 2/	Install	Berm ^{3/}	4/	1
865	865	1/, 2/	Install	Berm ^{3/}	4/	2
867	867	1/, 2/	Install	Berm ^{3/}	4/	1

1/ **Shown on Contract Area Map**

2/ **At Location Designated by Forest Service**

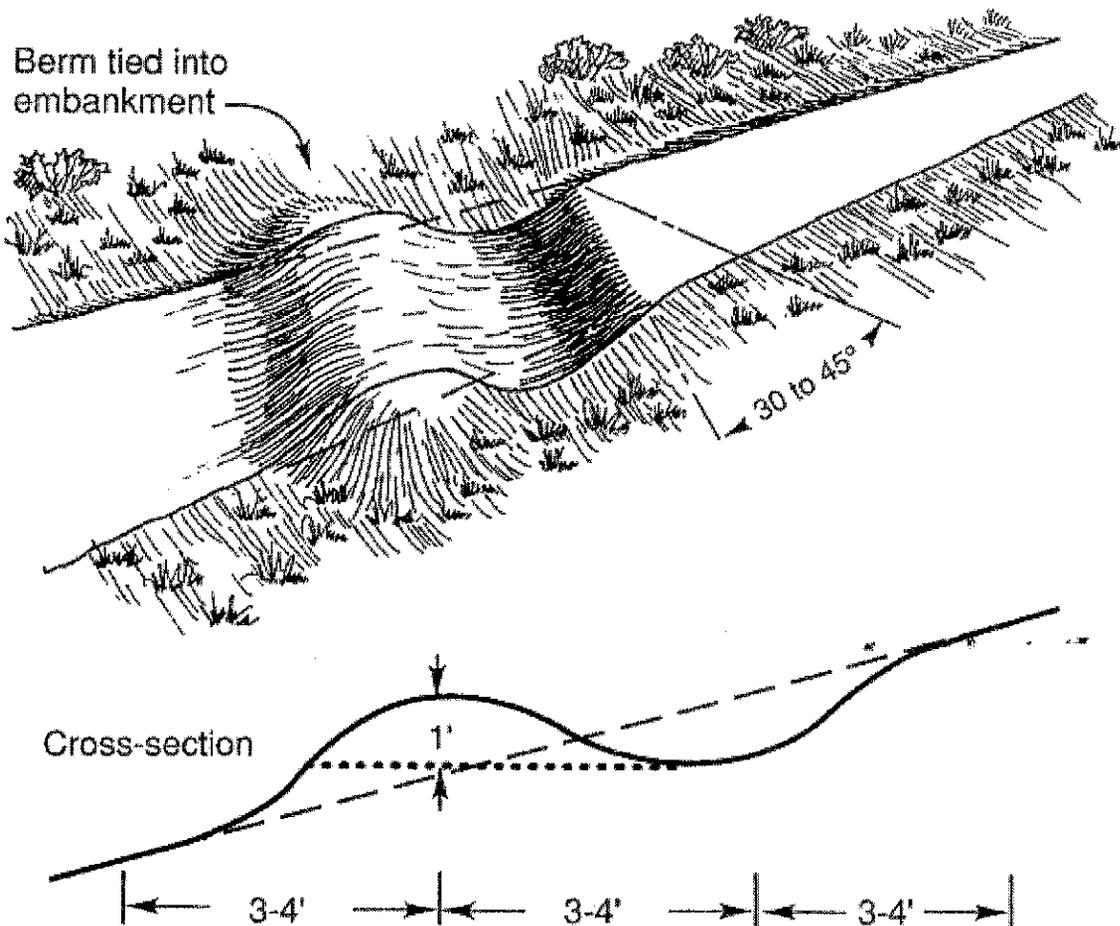
3/ **ATV Passable Berm**

4/ **Per Typical Drawing – Earthen Berms/Road Closure Devices**

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)
WO-KT-FT.3.1# Special Provisions

Earthen Berms/Road Closure Devices (Typical Drawing)



Earth berm/water bars are narrow, earthen ridges built across roads or trails. They divert water off and away from roads or trails into vegetated areas before it causes erosion. When properly built, they prevent exposed soil from moving, protecting the area until grass vegetation is firmly established.

As shown in the above drawing, the berm/water bar should be placed at an angle of 30 to 45 degrees, relative to the road, to allow for runoff to drain from the inlet, through the trench, and into the adjacent forest floor or vegetation.

Dig a trench, 12 to 18 inches below the surface of the road or trail, and extend it beyond both sides of the road or trail to prevent runoff from bypassing the water bar. The uphill end of the water bar should extend beyond the side ditch of the road and into an earth-berm to fully intercept any ditch flows. The outflow end of the water bar is to be fully open and extended far enough beyond the edge of the road or trail to safely disperse runoff water onto the undisturbed forest floor. When

GARDNER PINE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

FS-2400-13T Contracts (09/04)

WO-KT-FT.3.1# Special Provisions

placement of the closure device does not require the berm to also function as a water bar for drainage, the trench will not be required.

Height of the berm will be approximately 4 feet. Rocks/boulders, logging slash, cull logs, and stumps may be incorporated into the ridge of earth during construction of the berm as long as proper drainage will be maintained and the road is completely blocked, unless otherwise agreed in writing.

Supplemental Specifications to Special Provision KT-GT.9# - Stewardship Projects

Gate Closure

Project Number	Road #	Location of Gate Closure Work	Unit of Measure	Estimated Quantity
GC-010 ¹	FR 866	MP 0.77	Lump Sum	1
GC-011 ¹	FR 866	MP 2.33	Lump Sum	1

Material and Placement Requirements

- Existing gate and resting post, at MP 0.77, are to be relocated to MP 2.33, upon completion of road work activities. Any damages to the gate during removal, relocation or installation are the purchaser's responsibility. Disturbed areas are to be rehabilitated following gate removal and placement.
- ¹ – GC-010 & GC011 to be completed after RM-010, RR-010, BC-010, BC011 & SC-010.

Road Rehabilitation

Project Number	Road #	Location of Road Rehabilitation Work	Unit of Measure	Estimated Quantity
RR-010	FR 866	MP 0.77-2.33	Mile	1.56

Clearing, Grubbing and Shaping Requirements

- Clear and grub brush and debris within the travelway and place outside of clearing limits.
- Reconstruct 1' deep ditches on left and right side of travelway. Incorporate excavated ditch material into the travelway.
- Travelway at locations of newly constructed ditches shall be no greater than 16' in width.
- Do not construct 16' travelway with 1' ditches at locations where there is proper drainage and no standing water or mud holes.
- Work shall be performed during **dry summer conditions only**. As directed by Forest Service.

Road Mowing

Project Number	Road #	Location of Road Mowing Work	Unit of Measure	Estimated Quantity
RM-010	FR 866	MP 0.77-2.33	Lump Sum	1

Material and Placement Requirements

- Equipment Requirement: a heavy-duty commercial mower(s) capable of removing woody stems up to four inches (4") in diameter is the minimum required to perform the specified mowing. The mower shall be a side- or boom-mounted rotary type with a protective shroud or deck to direct cuttings downward and limit the amount of cuttings expelled from the underside. The mower shall be equipped with a rotating amber light visible for 360 degrees, roll-over protection structure (R.O.P.S.), a safety screen, impact resistant glass (lexon), enclosed cab, a spark arrestor, and a fire extinguisher..
- Remove all vegetation (grass, brush, and small trees) having a diameter of four inches (4") or less at breast height from the edge of the traveled way and to a maximum distance of the existing clearing limits or 15' maximum. The edge of the traveled way and the existing clearing limits shall be as determined by the Forest Service.
- Vegetation located within the existing clearing limits shall be cut and masticated with a rotary mower designed to cut and masticate. Cutting height shall not exceed six inches (6") above the ground surface except where obstructions such as large rocks or existing stumps prevent lowering the cutting head to that level.
- All loose rocks, debris, or slash (windfall trees or branches) larger than three inches (3") in diameter within mowing limits shall be removed. Slash shall be scattered outside mowing and clearing limits. Slash shall not be placed into a stream or ditch. All woody material larger than one inch (1") in diameter or two feet (2') in length and any sharp object shall be removed from the traveled way.
- Road signs, culverts, culvert markers, barrier posts, gates and other appurtenances damaged or misaligned by the Contractor's operations shall be repaired or replaced by the Contractor at his/her own expense.

Berm Closure - Road Decommissioning

Project Number	Road #	Location of Berm Closure Work	Unit of Measure	Estimated Quantity
BC-010	FR 866	MP 0.95 (North End of FR 850)	Each	1
BC-011	FR 866	MP 1.07 (South East end of FR 866-D)	Each	1

Material and Placement Requirements

- Earth, stumps, boulders and debris may be used for the construction of berms on the two (2) road sections designated by Forest Service for decommissioning, as listed in the above table. This material may have to be hauled or moved from locations agreed to with Forest Service and placed on designated road segments. Berm shall be placed and constructed to restrict vehicle access wider than 65 inches.

Slash Closure - Road Decommissioning

Project Number	Road #	Location of Slash Closure Work	Unit of Measure	Estimated Quantity
SC-010	FR 866	MP 1.79 (West end of FR 866-G)	Each	1

Material and Placement Requirements

- Debris material including stumps, trees, logging slash, rocks, and brush should be used to obstruct the travelway on the road section designated by Forest Service for decommissioning, as listed in the above table. This material may have to be hauled or moved from locations agreed to with Forest Service and placed on designated road segments.
- Material must be scattered across travelway with a minimum of 80% of the road surface covered with material for a distance of 150 feet and an average depth of 36 inches on each road section.
- Material shall be placed parallel, diagonal, and perpendicular to motorized travel direction.

**GARDNER PINE SERVICE PROJECTS
SUPPLEMENTAL SPECIFICATIONS (KT-GT.9#)**

Statement of Work

The Contractor shall provide any and all equipment, labor, supplies, tools, supervision, transportation, materials including safety and other incidentals necessary to perform all work activities located within the boundaries of the Contract Area, in accordance with the specifications, exhibits and clauses contained or referenced herein.

Schedule of Work – Mandatory

¹ Method of Measure

Project No.	Spec. No.	Location/ Milepost	Work Description	Unit of Measure & M of M¹	Quantity
GC-010		FR 866	Gate Closure		
	203 05	0.77	Remove gate and resting post. Gate and resting post are to be placed aside and installed at MP 2.33 upon completion of road work activities.	LS	1
RM-010		FR 866	Road Mowing		
	201 02	0.77 – 2.33	Road Mowing of overgrown road. Mechanical rotary mowing is to be performed from back to back of ditch line or 24' cleared road width.	LS	1
RR-010		FR 866	Road Rehabilitization		
	249 03	0.77 – 2.33	Road Rehabilitization is to be performed to shape road to crown and to restore ditches to allow for drainage. Match typical drawing for existing 16' wide travelway.	LS	1
BC-010		FR 866	Berm Closure		
	650 02	0.95	Construct berm on FR 850 using earth, boulders, stumps and debris to restrict vehicle access wider than 65". See drawing for details.	EA	1

Gardner Pine Stewardship Projects

Project No.	Spec. No.	Location/ Milepost	Work Description	Unit of Measure & M of M¹	Quantity
BC-011		FR 866	Berm Closure		
	650 02	1.07	Construct berm on FR 866-D using earth, boulders, stumps and debris to restrict vehicle access wider than 65". See drawing for details.	EA	1
SC-010		FR 866	Slash Closure		
	249 04	1.79	Haul and place stumps, slash, tops and debris in roadbed for 150', on FR 866-G.	EA	1
GC-011		FR 866	Gate Closure		
	650 01	2.33	Install gate and resting post. Gate and resting post are to be installed at MP 2.33 upon completion of road work activities.	EA	1

GARDNER PINE Stewardship

Road Decommission Stewardship Notes

- Note:** Logging slash, stumps, rocks and debris placed on road surface on the designated sections by the Forest Service with materials placed on an average of 36 inches in depth and 150 feet in length. Material must be scattered across travelway width with a minimum of 80% of the road surface covered with material. Material shall be placed parallel, diagonal and perpendicular to motorized travel direction.
- Note:** The decommissioning material may have to be hauled and placed on certain road segments.
- Note:** Additional debris materials will be generated for use during the clearing and grubbing of roads throughout project. This material may also be used for slash closure of decommissioned roads.
- Note:** Earth, stumps, boulders and debris may be used for the construction of berms as directed by the Forest Service. Berms shall be constructed in such a manner as to restrict motorized vehicles.

Road Rehabilitation Stewardship Notes

- Note:** Clearing and grubbing shall include removal of brush and debris. Brush and debris shall be placed outside of the clearing limits. Do not remove trees greater than 5" DBH without approval of Forest Service.
- Note:** Reconstruct ditches left and right side of travelway to a 1' depth and a 2/1 slope. Incorporate ditch material into roadbed.. Newly constructed travelway shall not exceed 16' in width.
- Note:** Do not construct 1' ditches left and right or raise travelway of roadbed in areas where the roadbed has proper drainage.
- Note:** Work shall be performed during dry summer conditions as directed by Forest Service.

**Gardner Pine Stewardship Sale
SPECIFIED ROAD WORK SCHEDULE OF ITEMS**

Date: 11/04/2015

Page 1 of 5

Item No.	Road Number & Item Description	C or R ¹	Unit of Measure & M of M ²	Quantity	Road Standard (W, D, S) ³	Unit Allowance	Estimated Allowance
	FR 849	R			S		
	MP 0.00 - 0.02						
249(03)	Composite Road Construction Work includes clearing and grubbing entrance and to shape road to crown to allow for drainage.		LS LSQ	1		\$150.00	\$150.00
203(04)	Removal of Culvert at MP 0.01. Remove and dispose of culvert off of government land.		EA AQ	1		\$250.00	\$250.00
249(03)	Composite Road Construction Work includes preparing culvert bed at MP 0.01.		LS LSQ	1		\$150.00	\$150.00
602(74)	Furnish and install 15" x 40' CMP drainage pipe with band.		LF AQ	40		\$18.00	\$720.00
204(01)	Excavate 40 CY local borrow from right and left and place into travel way over/near pipe.		CY DQ	40		\$5.00	\$200.00
308(01)	Minor Crushed Aggregate Courses. Work includes furnishing, hauling and placing 30 CY (39 CY loose material) of crushed aggregate surfacing onto entrance and approach radii.		CY DQ	30		\$30.00	\$900.00
					FR 849 segment = \$2,370.00		

Page 2 of 5

Item No.	Road Number & Item Description	C or R ¹	Unit of Measure & M of M ²	Quantity	Road Standard (W, D, S) ³	Unit Allowance	Estimated Allowance
	FR 863	R			S		
	M.P. 0.00 - 0.02						
249(03)	Composite Road Construction Work includes clearing and grubbing entrance and to shape road to crown to allow for drainage.		LS LSQ	1		\$150.00	\$150.00
204(01)	Excavate 20 CY local borrow from right and left and place into travel way at entrance.		CY DQ	20		\$5.00	\$100.00
308(01)	Minor Crushed Aggregate Courses. Work includes furnishing, hauling and placing 30 CY (39 CY loose material) of crushed aggregate surfacing onto entrance and approach radii.		CY DQ	30		\$30.00	\$900.00
			FR 863 segment = \$1,150.00				
	FR 864	R			S		
	M.P. 0.00 - 0.02						
249(03)	Composite Road Construction Work includes clearing and grubbing entrance and to shape road to crown to allow for drainage.		LS	1		\$150.00	\$150.00
204(01)	Excavate 20 CY local borrow from right and left and place into travel way at entrance.		CY DQ	20		\$5.00	\$100.00

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Item No.	Road Number & Item Description	C or R ¹	Unit of Measure & M of M ²	Quantity	Road Standard (W, D, S) ³	Unit Allowance	Estimated Allowance
	FR 864 (cont.) M.P. 0.00-0.02	R			S		
308(01)	Minor Crushed Aggregate Courses. Work includes furnishing, hauling and placing 30 CY (39 CY loose material) of crushed aggregate surfacing onto entrance and approach radii.		CY DQ	30		\$30.00	\$900.00
							FR 864 segment = \$1,150.00
	FR 865 MP 0.00 – 0.02	R			S		
249(03)	Composite Road Construction Work includes clearing and grubbing entrance and to shape road to crown to allow for drainage.		LS	1		\$150.00	\$150.00
308(01)	Minor Crushed Aggregate Courses. Work includes furnishing, hauling and placing 30 CY (39 CY loose material) of crushed aggregate surfacing onto entrance and approach radii.		CY DQ	30		\$30.00	\$900.00
	M.P. 0.46 - 0.48						
249(03)	Composite Road Construction Work includes clearing and grubbing entrance and to shape road to crown to allow for drainage.		LS	1		\$150.00	\$150.00

Page 4 of 5

Item No.	Road Number & Item Description	C or R ¹	Unit of Measure & M of M ²	Quantity	Road Standard (W, D, S) ³	Unit Allowance	Estimated Allowance
	FR 865 (cont.)	R			S		
	MP 0.46 – 0.48						
204(01)	Excavate 20 CY local borrow from right and left and place into travel way at entrance.		CY DQ	20		\$5.00	\$100.00
308(01)	Minor Crushed Aggregate Courses. Work includes furnishing, hauling and placing 30 CY (39 CY loose material) of crushed aggregate surfacing onto entrance and approach radii.		CY DQ	30		\$30.00	\$900.00
					FR 865 segment = \$2,200.00		
	FR 866	R			S		
	MP 0.00 – 0.02						
249(03)	Composite Road Construction Work includes clearing and grubbing entrance and to shape road to crown to allow for drainage.		LS	1		\$150.00	\$150.00
308(01)	Minor Crushed Aggregate Courses. Work includes furnishing, hauling and placing 30 CY (39 CY loose material) of crushed aggregate surfacing onto entrance and approach radii.		CY DQ	30		\$30.00	\$900.00
					FR 866 segment = \$1,050.00		

Item No.	Road Number & Item Description	C or R ¹	Unit of Measure & M of M ²	Quantity	Road Standard (W, D, S) ³	Unit Allowance	Estimated Allowance
	FR 867	R			S		
	M.P. 0.00 - 0.02						
249(03)	Composite Road Construction Work includes clearing and grubbing entrance and to shape road to crown to allow for drainage.		LS	1		\$150.00	\$150.00
204(01)	Excavate 40 CY local borrow from right and left and place into travel way at entrance.		CY DQ	40		\$5.00	\$200.00
308 (01)	Minor Crushed Aggregate Courses. Work includes furnishing, hauling and placing 30 CY (39 CY loose material) of crushed aggregate surfacing onto entrance and approach radii.		CY DQ	30		\$30.00	\$900.00
							FR 867 segment = \$1,250.00
Total Specified Roadwork Appraisal = \$9,170.00							

¹C = Construction

³D = Dry Summer

¹R = Reconstruction

³S = Summer

²Method of Measure

³W = Winter

Prepared by: Alan Pekkala, Civil Engineering Technician

GARDNER PINE STEWARDSHIP

SPECIFIED ROAD NOTES

- NOTE: All finished roadbeds shall be 12' as shown in the typical details for crowned roads with no ditches. Reconstruction roads have areas that need shaping and shall be built to minimize soil disturbance. When working in locations with suitable existing vegetation or stability, shaping may have to be reduced to retain soil/surface conditions.
- NOTE: In the narrative compacted and loose volumes are noted with loose volumes in parenthesis
- NOTE: There may be underground utility lines in unknown locations on this project. Call MISS DIG THREE full working days before any work begins. Phone 1-800-482-7171
- NOTE: The entrance culvert on FR 849 shall be galvanized metal CMP with 2' band.
- NOTE: There is 140 CY (182 CY loose material) of local excavation required to build up the entrances on FR 849, 863, 864, 865, and 867. Excavated material is to be placed onto the travel way to provide a level transition onto the County Road.
- NOTE: There is 210 CY (273 CY loose material) of crushed aggregate surfacing to be placed at the entrances of FR 849, 863, 864, 865, 866, and 867. **There is no government source available for this project.** Purchaser furnished material shall meet gradation requirements for the Michigan Department of State Highway Transportation-Designation 22A. Compact the aggregate by operating spreading and hauling equipment over the full width.
- NOTE: Summer standard typical roads shall be built to minimize soil disturbance and potential erosion, and allow for proper cross drainage.
- NOTE: During pit run borrow and gravel hauling operations, "Trucks Hauling" signs shall be placed on Gardner Tower Road and haul route, refer to the Sale Area Map for Cautionary Sign placement. Hauling shall not commence until all signs have been put in place as directed by the Forest Service.
- NOTE: During clear and grub operations all slash resulting from purchasers operation shall be treated as per KT-G 6.7#.

Standard Specifications for Construction of Roads & Bridges on Federal Highway Projects

Specification List

Project Name: **Gardner Pine Stewardship Sale**

Date Prepared: 11/04/2015

Page 1 of 2

Road Numbers: FR 849 FR 867		FR 849	FR 867	
Road Name:	Termini...	Miles		
	Construction Reconstruction	--- 0.02	--- 0.02	
Spec. No.	Title			Latest Revised Edition
101 thru 109	General Requirements	X	X	2003
203	Removal of Structures and Obstructions	X		2003
204	Excavation and Embankment	X	X	2003
249	Composite Road Construction	X	X	2003
308	Minor Crushed Aggregate Course	X	X	2003
602	Culverts and Drains	X		2003

Project Name: **Gardner Pine Stewardship Sale**

Date Prepared: 11/04/2015

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Road Numbers: FR 863, FR 864 FR 865, FR 866		FR 863	FR 864	FR 866	FR 865	
Road Name:	Termini...	Miles	Miles	Miles	Miles	
	Construction Reconstruction	--- 0.02	--- 0.02	--- 0.02	--- 0.48	
Spec. No.	Title					Latest Revised Edition
101 thru 109	General Requirements	X	X	X	X	2003
204	Excavation and Embankment	X	X	X	X	2003
249	Composite Road Construction	X	X	X	X	2003
308	Minor Crushed Aggregate	X	X	X	X	2003

Note: The Forest Service, U.S. Department of Agriculture has adopted FP-03 for construction of National Forest System Roads.

GARDNER PINE STEWARDSHIP

SUPPLEMENTAL SPECIFICATIONS

Section 101-109	General Requirements
Section 203	Removal of Structures and Obstructions
Section 204	Excavation and Embankment
Section 249	Composite Road Construction
Section 308	Minor Crushed Aggregate Courses
Section 602	Culverts and Drains

SUPPLEMENTAL SPECIFICATION

PREFACE

Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted FP-03 for construction of National Forest System Roads.

SUPPLEMENTAL SPECIFICATION

Section 101 – TERMS, FORMAT, AND DEFINITIONS

101.01 Meaning of Terms.

Add the following:

Delete all references in FP-03 to Transportation Acquisition Regulations (TAR). For Timber Sales, delete all references in FP-03 to Federal Acquisition Regulations (FAR).

101.03 Abbreviations.

Add the following to (a) Acronyms:

AFPA	American Forest and Paper Association
MSHA	Mine Safety and Health Administration
NIST	National Institute of Standards and Technology
NESC	National Electrical Safety Code
WCLIB	West Coast Lumber Inspection Bureau

Add the following to (b) SI Symbols:

mp	Milepost
ppm	Part Per Million

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

Contractor--The individual or legal entity contracting with the Government for performance of prescribed work. In a timber sale contract, the contractor is the "purchaser".

Culvert--No definition.

Right-of-Way--A general term denoting (1) the privilege to pass over land in some particular line (including easement, lease, permit, or license to occupy, use, or traverse public or private lands), or (2) Real property necessary for the project, including roadway, buffer areas, access, and drainage areas.

Add the following:

Adjustment in Contract Price--“Equitable adjustment,” as used in the Federal Acquisition Regulations, or “construction cost adjustment,” as used in the Timber Sale Contract, as applicable.

Change--“Change” means “change order” as used in the Federal Acquisition Regulations, or “design change” as used in the Timber Sale Contract.

Design Quantity-- “Design quantity” is a Forest Service method of measurement from the FS-96 *Forest Service Specifications for the Construction of Roads and Bridges*. Under these FP specifications this term is replaced by the term “Contract Quantities”.

Forest Service--The United States of America, acting through the Forest Service, U.S. Department of Agriculture.

Neat Line--A line defining the proposed or specified limits of an excavation or structure.

Pioneer Road--Temporary construction access built along the route of the project.

Purchaser--The individual, partnership, joint venture, or corporation contracting with the Government under the terms of a Timber Sale Contract and acting independently or through agents, employees, or subcontractors.

Protected Stream course--A drainage shown on the plans or timber sale area map that requires designated mitigation measures.

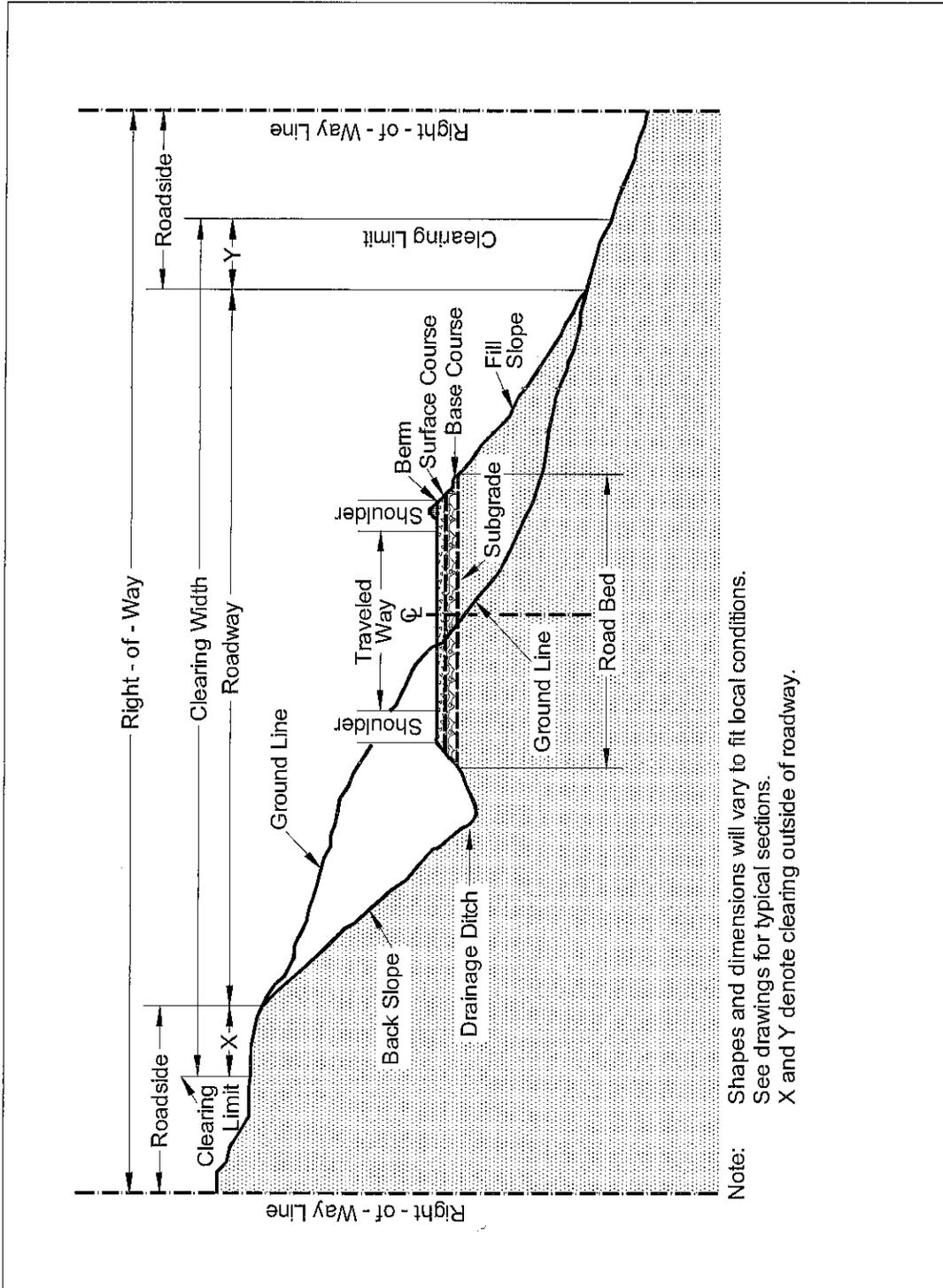
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

Schedule of Items--A schedule in the contract that contains a listing and description of construction items, quantities, units of measure, unit price, and amount.

Utilization Standards--The minimum size and percent soundness of trees described in the specifications to determine merchantable timber.

Add Figure 101-1—Illustration of road structure terms:

Figure 101-1—Illustration of road structure terms.



SUPPLEMENTAL SPECIFICATION

Section 102 – BID, AWARD, AND EXECUTION OF CONTRACT

102 Delete

Delete Section 102 in its entirety.

SUPPLEMENTAL SPECIFICATION

Section 103 – SCOPE OF WORK

103 Delete

Delete all but subsection 103.01 Intent of Contract.

SUPPLEMENTAL SPECIFICATION

Section 106- ACCEPTANCE OF WORK

106.07 Partial and Final Acceptance.

Delete subsection 106.07

SUPPLEMENTAL SPECIFICATION

Section 107- LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

SUPPLEMENTAL SPECIFICATION

Section 108- PROSECUTION AND PROGRESS

Delete Section 108 in its entirety.

SUPPLEMENTAL SPECIFICATION

Section 109- MEASUREMENT AND PAYMENT

109.02 Measurement Terms and Definitions

Add: One of the following methods of measurement for determining final payment is DESIGNATED on the SCHEDULE OF ITEMS for each pay item:

(a) Designated Quantities (DQ). These quantities denote the final number or units to be paid for under the terms of the contract. They are based upon the original design data available prior to advertising the project. Original design data include the preliminary survey information, design assumptions, calculations, drawings, and the presentation in the contract. Changes in the number of units SHOWN in the SCHEDULE OF ITEMS may be authorized under any of the following conditions:

- (1) As a result of changes in the work authorized by the Contracting Officer.
- (2) As a result of the Contracting Officer determining that errors exist in the original design that cause a pay item quantity to change by 15 percent or more.
- (3) As a result of the contractor submitting to the Contracting Officer a written request showing evidence of errors in the original design that cause a pay item quantity to change by 15 percent or more. The evidence must be verifiable and consist of calculations, drawings, or other data that show how the designated quantity is believed to be in error.

(b) Staked Quantities (SQ). These quantities are determined from staked measurements prior to construction.

(c) Actual Quantities (AQ). These quantities are determined from measurements of completed work.

(d) Vehicle Quantities (VQ). These quantities are measured or weighed in hauling vehicles.

(e) Lump Sum Quantities (LSQ). These quantities denote one complete unit of work as required by or described in the contract, including necessary materials, equipment, and labor to complete the job. They will not be measured.

Quantity Measurements. The Forest Service shall make all measurements for computation of quantities for all work items except those specified for payment by Design Quantity (DQ). The Engineer shall compute the quantities for periodic payments and for final payment.

The Contractor shall certify in writing at the completion of contract work, that the quality of construction conforms to the drawings, specifications, and requirements of the Contract.

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

SUPPLEMENTAL SPECIFICATION

Section 203 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

203.01 Work.

Delete and replace with the following:

This work consists of disposing of clearing slash, salvaging, removing, and disposing of buildings, fences, structures, pavements, culverts, utilities, curbs, sidewalks, and other obstructions.

203.05 Disposing of Material.

(a) Remove from project. Delete second and third sentence. **Add:** Culverts shall be removed from the project and disposed of off Government land.

Add the following disposal method:

(f) Scattering. Scatter construction slash outside the clearing limits without damaging trees. Limb all logs. Stumps shall be severed from all trees, and set in an upright position with their root masses resting on the ground. Place logs and stumps away from trees, positioned so that they will not roll, and are not on top of one another. Limb and scatter other construction slash to a maximum height of 3-feet.

SUPPLEMENTAL SPECIFICATION

Section 204-EXCAVATION AND EMBANKMENT

204.05 Conserved Topsoil.

Delete the subsection.

204.09 Preparing Foundation for Embankment Construction.

Delete subsection (a) and replace it with the following:

(a) Embankment less than 4 feet high over natural ground. When designated, remove topsoil and break up the ground surface to a minimum depth of 6 inches by plowing or scarifying. Compact the ground surface according to Subsection 204.11.

204.10 Embankment Construction.

Add the following:

When an embankment is to be placed across swampy ground and removal of unsuitable material or subgrade treatment is not required, the lower part of the embankment shall be constructed in a single layer to the minimum depth necessary to support construction equipment.

(c) Individual rock fragments and boulders.

Add the following:

(5) Such rocks and boulders shall be at least 6 inches below subgrade.

204.11 Compaction.

Add the following:

All embankments shall be placed and compacted by one or more of the following methods as SHOWN ON THE DRAWINGS and listed in the SCHEDULE OF ITEMS.

Add the following compaction method:

(d) Layer Placement Method (Hauling and Spreading Equipment). Place material by end dumping to the minimum depth needed for operation of spreading equipment. Level and smooth each embankment layer before placing the next layers. Operate hauling and spreading equipment uniformly over the full width of each layer. Construct a solid embankment with adequate compaction by working smaller rock and fines in with the larger rocks to fill the voids, and by operating hauling and spreading equipment uniformly over the full width of each layer as the embankment is constructed.

(e) Layer Placement Method (Roller Compaction). Place material by end dumping to the minimum depth needed for operation of spreading equipment. Adjust the moisture content of the material to obtain a mass that will not visibly deflect under the load of the hauling and spreading equipment. Operate compaction equipment over the full width of each layer until visible deformation of the layer ceases or, in when a sheepsfoot roller is used, the roller "walks out" of the layer. Make at least three complete passes.

204.13 Sloping, Shaping, and Finishing.

(a) Sloping.

Add the following:

Slope rounding is not required on tolerance class D though M roads.

(c) Shaping.

Add the following:

When excavation is measured on a station basis, excavating, placing of embankment, and shaping and compacting the roadway template shall include only those areas where cuts and fills are generally less than five feet in depth as measured from the finished shoulder grade to the top of the adjacent cut or toe of fill. These areas of station grading shall consist of light dozing or grading of such character that the excavation from backslopes, ditches, and roadbed shall be used in shaping the subgrade, shoulders, and adjacent fills.

When excavation is measured by the station (station grading) as designated in the SCHEDULE OF ITEMS, turnouts, side entrances, approaches, radii and T-turnarounds shall not be measured separately, but will be included as part of the station measurement along the construction centerline.

This work shall include all necessary scarifying, dozing, disking, moving, shaping, and compacting to develop the cross-sections SHOWN ON THE DRAWINGS. Loading and hauling will not be included or required in the work.

Compaction of the subgrade shall be accomplished with the construction and hauling equipment.

Delete section (d) and add the following:

(d) Finishing. For surfaced roads, remove all material larger than 6 inches from the top 6 inches of the roadbed. For all roads, finish the roadbed to be smooth and uniform, and shaped to conform to the typical sections. Remove unsuitable material from the roadbed and replace it with suitable material. Finish roadbeds to the tolerance class shown in table 204-2.

Ensure that the subgrade for both surfaced and unsurfaced roads is visibly moist during shaping and dressing. Bring low sections, holes, cracks, or depressions to grade with suitable material. Maintain proper ditch drainage.

For unsurfaced roads, use one of the following methods to finish the roadbed

- (1) Method A. Remove all material larger than 6 inches from the top 6 inches of the roadbed and replace with suitable material.
- (2) Method B. Use a vibratory grid roller or approved equal with a minimum weight of 10 tons. Roll at least 5 full-width passes or until visible displacement ceases.
- (3) Method C. For roads designated as Construction Tolerance Class K, L, or M, finish the roadbed by spreading the excavation. Eliminate rock berms.

Add Table 204-2—Construction Tolerances:

Table 204-2 Construction tolerances.

	Tolerance Class ^(a)												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Roadbed width (ft)	+0.5	+0.5	+1.0	+1.0	+1.0	+1.0	+1.5	+1.0	+2.0	+2.0	+2.0	+2.0	+2.0
Subgrade elevation (ft)	±0.1	±0.2	±0.2	±0.5	+0.5	±1.0	±1.0	±1.5	±2.0	±3.0	±2.0	±3.0	(c)
Centerline alignment (ft)	±0.2	±0.2	±0.5	±0.5	±1.0	±1.0	±1.5	±1.5	±2.0	±3.0	±3.0	±5.0	(c)
Slopes, excavation, and embankment (% slope ^(b))	±3	±5	±5	±5	±5	±5	±10	±10	±10	±10	±20	±20	±20

- a. Maximum allowable deviation from construction stakes and drawings.
- b. Maximum allowable deviation from staked slope measured from slope stakes or hinge points.
- c. Unless otherwise shown the centerline alignment and subgrade elevation, as built, have no horizontal curves with a radius of less than 80 feet, and no vertical curves with a curve length of less than 80 feet when the algebraic difference in the grade change is less than 10 percent, or a curve length of less than 100 feet when the algebraic difference of the grade change is greater than or equal to 10 percent. The centerline grade is not to exceed 20 percent in 100 feet of length.

204.16

(b) Unclassified borrow, select borrow, and select topping.

Add the following:

When borrow is designated as a pay item by the cubic yard in the SCHEDULE OF ITEMS, measurement will be in the final position.

SUPPLEMENTAL SPECIFICATION

Section 249. – COMPOSITE ROAD CONSTRUCTION

Description

- 249.01** This work consists of clearing and grubbing, excavation and embankment, and removal of all construction slash including all trees designated for removal. Excavation and embankment includes on site borrow excavation; drainage excavation; placing all excavated material; and shaping the roadway; including approaches, turnarounds, ditches and drainage dips. Construct the roadway in conformance with the dimensions "shown on the plans" or as staked on the ground.

Construction Requirements

249.02 Clearing & Disposal

Protect construction stakes and construction control markers. Remove or treat all trees, snags, downed timber, brush, and stumps within the clearing limits according to the following specifications.

(a) Merchantable Timber. Treat according to the Utilization Standards of the Timber Sale Contract.

(b) Unmerchantable Timber. Treat according to Subsection 249.02 Method A.

(c) Large Construction Slash. Treat construction slash larger than 3 inches in diameter and longer than 3 feet by one or more of the following methods.

(1) Method A. Construction slash shall be scattered outside the clearing limits without damaging trees outside the clearing area. Logs shall be placed away from trees, positioned so that they will not roll, not placed on top of one another or left leaning on other trees. Scattered stumps shall be placed in an upright position.

(2) Method B. Stumps, roots, rocks, topsoil and other grubbing debris shall be concentrated in stump dump areas. Stump dump areas shall be located by the

Engineer, be a maximum of 300 feet apart along the road centerline, and generally be located in natural depressions or tucked away behind denser vegetation or ground rises. Stump dumps will vary in size depending on each site, but shall not be closer than 10 feet outside of the clearing limits. Stump dump material shall be matted down as much as possible and shall not obstruct natural drainages.

(d) Small Construction Slash. Construction slash less than 3 inches in diameter and less than 3 feet in length may be incorporated into embankments so long as the material is distributed so that it does not result in concentrations or matting.

Immediately remove slash deposited in stream courses.

249.03 Pioneering.

Do not undercut the final back slope during pioneer operations. Deposit material inside the roadway limits. Do not restrict drainages.

249.04 Grubbing.

Grub within the specified limits. Stumps outside the grubbing limits remain if cut no higher than 1 foot or one-third of the stump diameter, whichever is greater, above the original ground, measured on the uphill side, unless otherwise designated. Grub all stumps from the Roadway, or stumps that have less than 1 foot of cover, in the Fill slopes, providing they do not interfere with the placement or compaction of embankments.

249.05 Excavation and Embankment.

Construct the roadway to conform to the typical sections shown on the plans. Protect backslopes from being undercut. Embankment shall be placed in layers no more than 12 inches thick.

Locate and use borrow material, and remove and treat unsuitable excess material, as designated.

Place rocks that are too large to be incorporated in the embankment outside the traveled way on the downhill side such that they will not roll, obstruct drainage, or hinder roadbed use and maintenance.

Shape and finish the roadbed to the condition ordinarily accomplished by a crawler tractor with dozer blade to provide drainage of surface water. Do not permit individual rocks to protrude more than 4 inches above the subgrade of the roadbed. A motor grader finish is not required.

Observe a width tolerance of (+) 18 inches max. for the roadbed.

Where shown on the drawings or designated on the ground, offtake ditches shall be constructed to drain water away from the roadbed.

249.06 Erosion Control.

Perform erosion control measures, where shown on the drawings, or staked on the ground.

Measurement

249.07 Method.

Measure the section 249 items listed in the schedule of items according to subsection 109.02

Payment

249.08 Basis.

The accepted quantities will be paid at the contract price per unit of measurement for Section 249 pay items listed in the Bid Schedule. Payment will be full compensation for the work prescribed in this section. See Subsection 109.05

322 - Minor Aggregate Courses

322.00_nat_us_10_24_2007

Description

322.01 This work consists of constructing one or more courses of aggregate on a prepared surface. Work includes producing aggregate by grid rolling, screening, or crushing methods, or placing pit-run or Government-furnished aggregate.

Surface aggregate grading is designated as shown in Table 703-3.

Subbase and base aggregate grading is designated as shown in Table 703-2.

Screened aggregate grading is designated as shown in Table 703-16.

Material

322.02 Conform to the following Subsections:

Aggregate	703.05
Water	725.01

Construction Requirements

322.03 General. Prepare the surface on which the aggregate course is placed according to Section 204 or 303 as applicable.

Request approval of the roadbed in writing before placing aggregate.

Develop, haul, and apply water in accordance to Section 170.

Submit target values within the gradation ranges shown in Table 703-2 or 703-3 for the required grading. After reviewing the proposed target values the CO will determine the final values for the gradation and notify the Contractor in writing.

No quality requirements or gradation other than maximum size will be required for pit run and grid-rolled material. For grid rolling, use all suitable material that can be reduced to maximum size.

After processing on the road, remove all oversize material from the road and dispose of it as directed by the CO.

If the aggregate is produced and stockpiled before placement, handle and stockpiled according to Section 320. Establish stockpile sites at approved locations.

322.04 Mixing and Spreading. Mix the aggregate and adjust the moisture content to obtain a uniform mixture with a moisture content suitable for the specified compaction method. Spread and shape the mixture on the prepared surface in a uniform layer with no segregation of size, and to a loose depth that will provide the required compacted thickness.

Do not place in layers exceeding 6 inches in compacted thickness for aggregate base and surface courses or twice the maximum particle size for screened aggregate. When more than one layer is necessary, compact each layer according to Subsection 322.05 before placing the next layer. Route hauling and leveling equipment uniformly over the full width.

When placing aggregate over geotextile, place aggregate in a single lift to the full depth specified.

322.05 Compacting. Compact each layer full width. Roll from the sides to the center, parallel to the centerline of the road. Along curbs, headers, walls, and all places not accessible to the roller, compact the material with approved tampers or compactors.

Compact the aggregate using one of the following methods as specified:

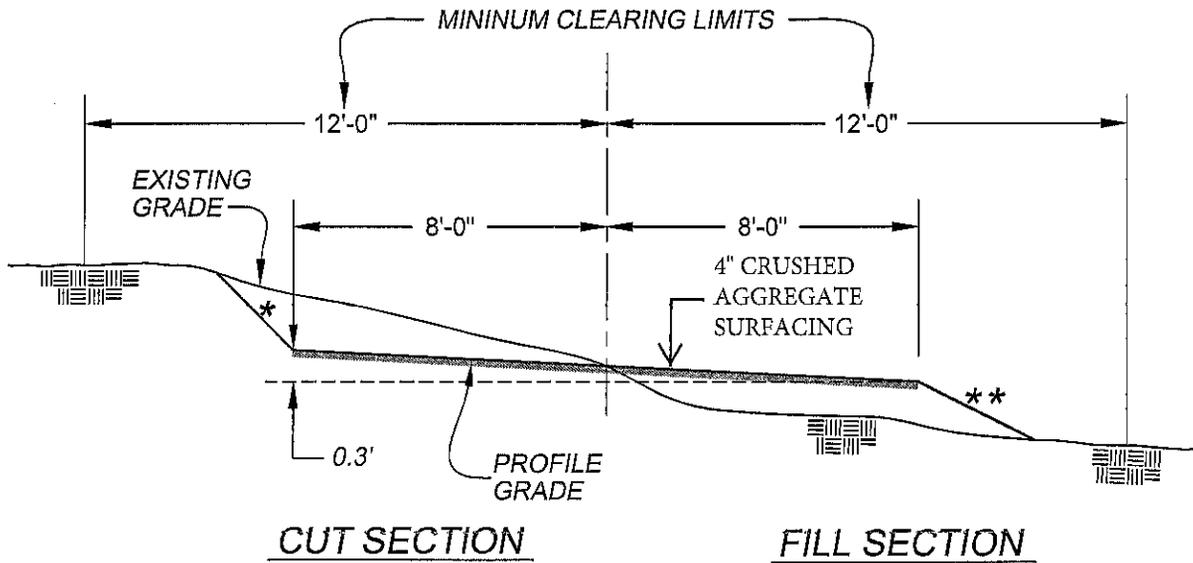
Compaction A. Operating spreading and hauling equipment over the full width of the travelway.

Compaction B. Operate rollers and compact as specified in Subsection 204.11(a)(1).

Compaction C. Moisten or dry the aggregate to a uniform moisture content between 5 and 7 percent based on total dry weight of the mixture. Operate rollers and compact as specified in Subsection 204.11(a)(1).

Compaction D. Compact to a density of at least 95 percent of the maximum density, as determined by AASHTO T 99, method C or D.

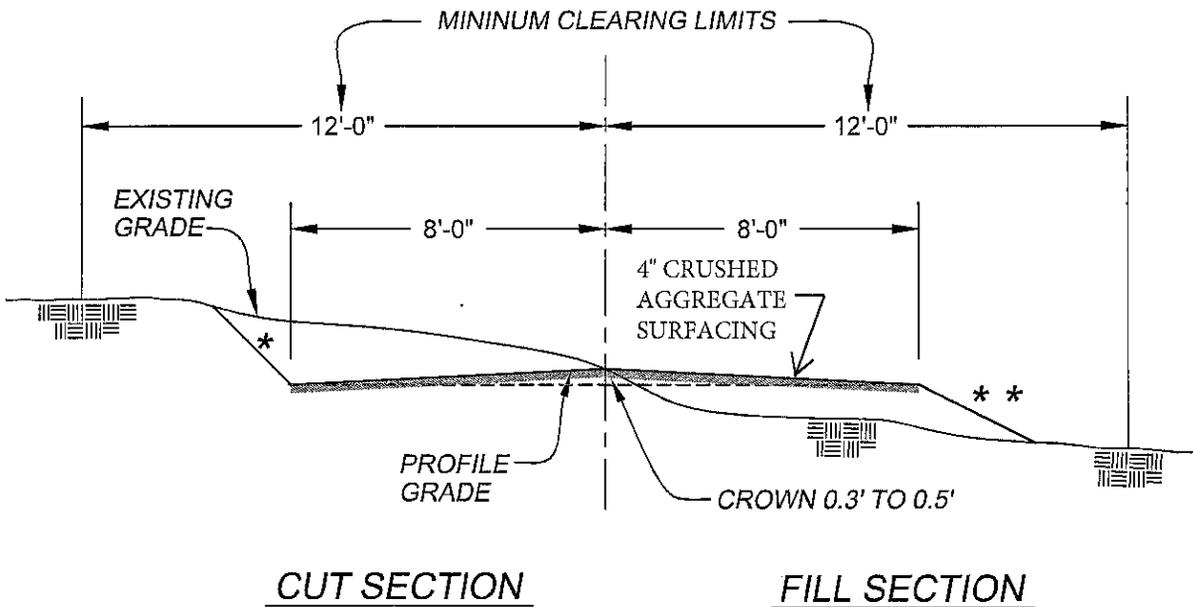
Compaction E. Compact to a density of at least 96 percent of the maximum density, as determined by the Modified Marshall Hammer Compaction Method (available upon



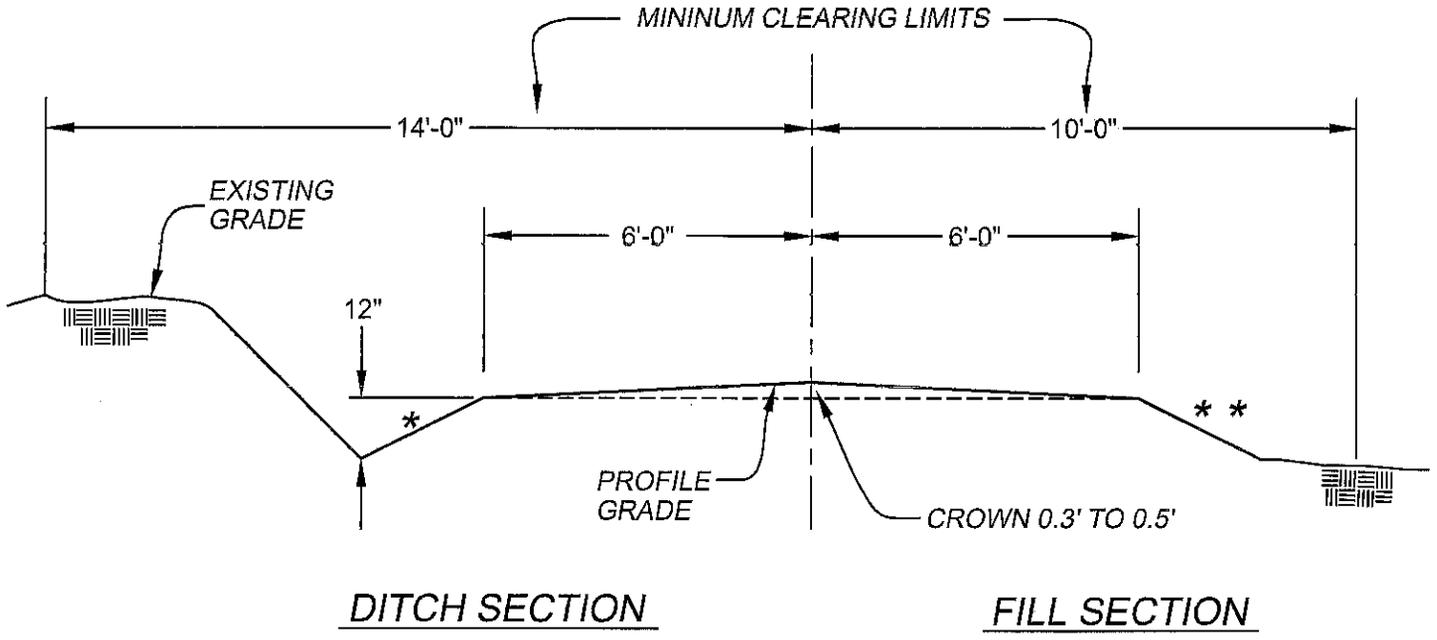
NOT TO SCALE

*BACKSLOPE AND DITCH SLOPES MAY VARY FROM 1H:1V TO 2H:1V WHEN CUTS ARE UNDER 2 FT. CUTS OVER 2 FT. SHALL HAVE SLOPES OF 2H:1V

**FILL SLOPES MAY VARY FROM 1-1/2H:1V TO 3H:1V



NOT TO SCALE

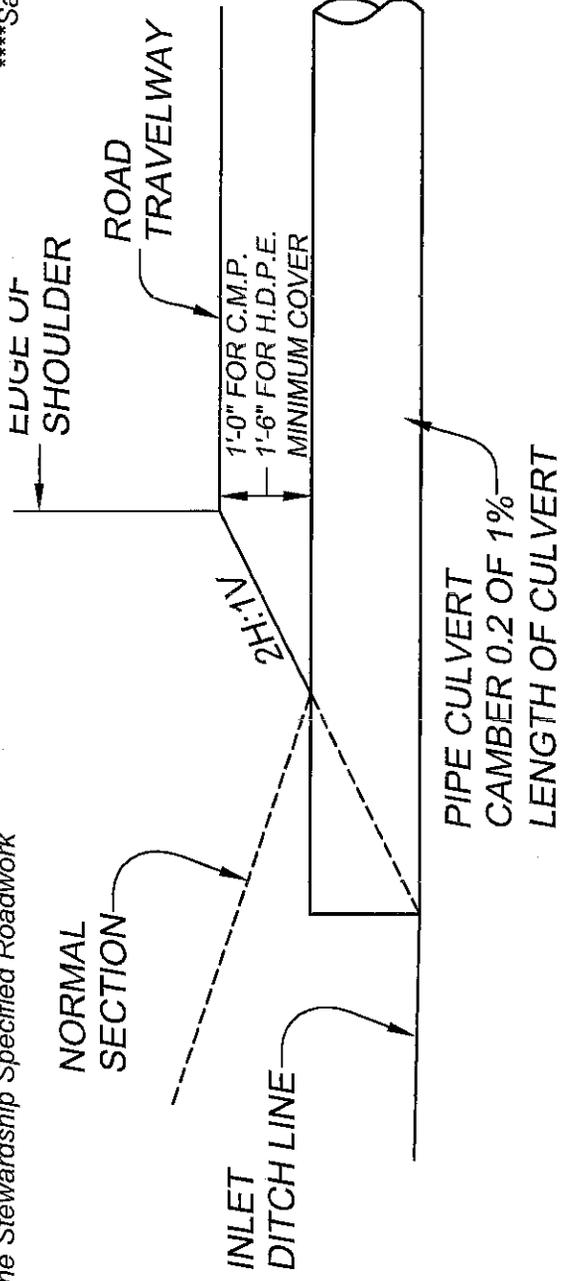


*BACKSLOPE AND DITCH SLOPES MAY VARY FROM 1H:1V TO 2H:1V WHEN CUTS ARE UNDER 2 FT. CUTS OVER 2 FT. SHALL HAVE SLOPES OF 2H:1V

**FILL SLOPES MAY VARY FROM 1-1/2H:1V TO 3H:1V

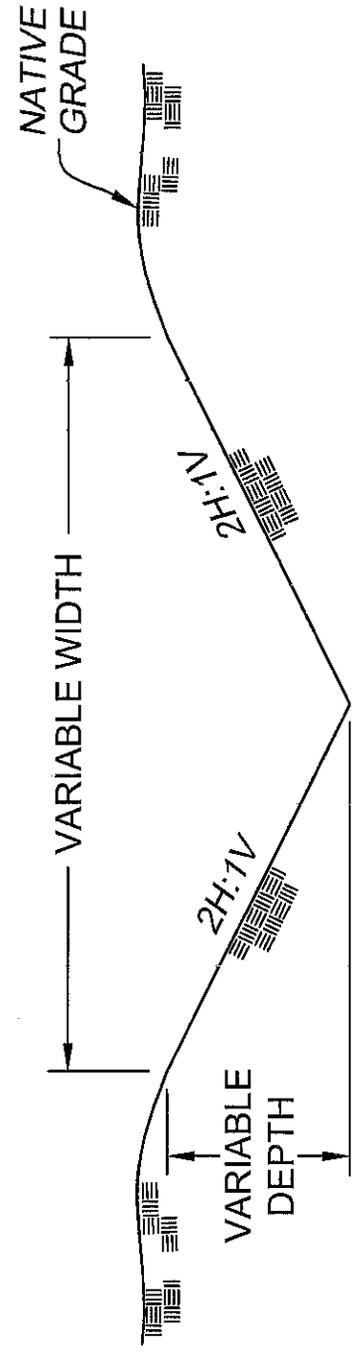
(SEE NARRATIVE FOR LOCATION)

TYPICAL CROSS SECTION WITH 1 FOOT DITCH
NOT TO SCALE



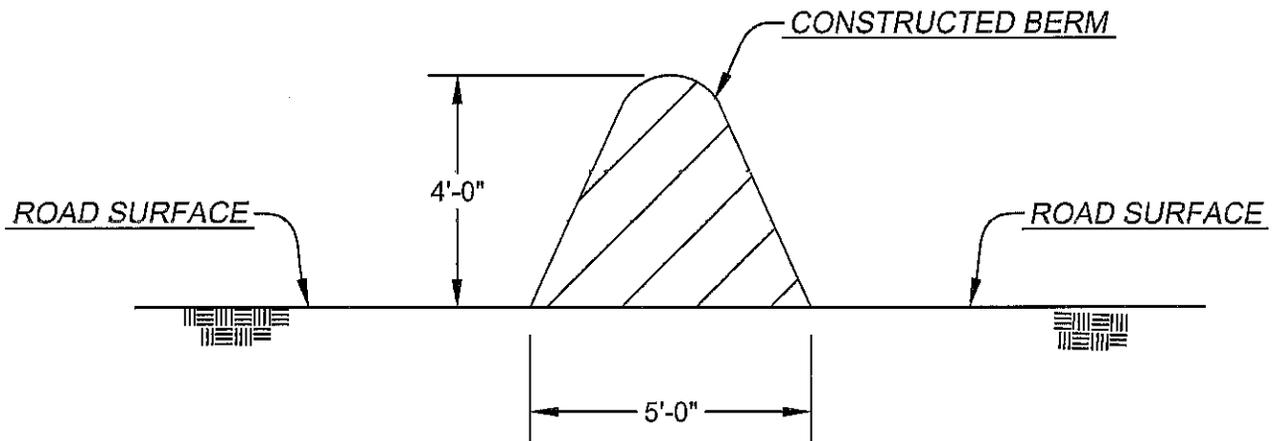
TYPICAL DITCH SECTION AT CULVERT INLET

NOT TO SCALE



TYPICAL INLET AND OUTLET DITCH SECTION

NOT TO SCALE



NOTE: BERM TO BE CONSTRUCTED WITH AVAILABLE BOULDERS FROM ROAD CONSTRUCTION AFTER SALE IS COMPLETED. IF ENOUGH BOULDERS ARE NOT AVAILABLE THE BER SHOWN ABOVE WILL BE CONSTRUCTED WITH EARTH. BERM IS TO BE CONSTRUCTED AS DIRECTED BY THE ENGINEERING REPRESENTATIVE.

TYPICAL BERM DETAIL
NOT TO SCALE

