

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE  <b>TIMBER SALE CONTRACT</b> (Applicable to Sales to be Measured before Felling)		Name of Purchaser	
<b>National Forest</b> Ottawa	<b>Ranger District</b> Kenton	<b>Region</b> Eastern	<b>Contract Number</b>
<b>Sale Name</b> Sidnaw Creek		<b>Award Date</b>	<b>Termination Date</b> 10/31/2023

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 Purchaser.

Forest Service having advertised a sale at which either (1) Purchaser, whose required bid deposit is now held by Forest Service as an initial deposit, was the successful bidder, or (2) no bids were received and Purchaser having subsequently offered at least the minimum advertised price and made an initial deposit in the same amount as the bid deposit specified in the sale advertisement; and the parties hereto desiring to record their agreement; now therefore,

Unless provided otherwise herein, Forest Service agrees to sell and permit Purchaser to cut and remove Included Timber and Purchaser agrees to purchase, cut, and remove Included Timber.

This contract consists of three Divisions: AT - Specific Conditions, BT - Standard Provisions, and CT - Special Provisions, together with Sale Area Map, Plans and specifications for developments (if any), and such attachments as may be provided for in Division CT. Specific Conditions are numbered and apply to the Part, Section, Subsection, or Item of the Standard Provisions, as indicated hereunder. Other conditions of this contract are stated in Division CT - Special Provisions.

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

**UNITED STATES OF AMERICA**

Two Witnesses:<sup>1/</sup>

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Address)

By: \_\_\_\_\_  
Contracting Officer

\_\_\_\_\_  
(Title)

By: \_\_\_\_\_<sup>2/</sup>  
(Purchaser)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Business Address)

I, <sup>3/</sup> \_\_\_\_\_, certify that I am the \_\_\_\_\_ Secretary of the corporation named as Purchaser herein; that \_\_\_\_\_ who signed this contract on behalf of Purchaser, 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** <sup>4/</sup>

**Sale Name:** Sidnaw Creek

**Contract No:**

**INSTRUCTIONS:**

- 1/ The signatures and addresses of two witnesses are required if Purchaser is other than a corporation.
- 2/ If Purchaser is a co-partnership, the signatures should be: XYZ Company, by John Doe, a member of the firm. If Purchaser 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.
- 3/ The certificate must be completed if Purchaser is a corporation.
- 4/ 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

Timber Sale 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 timber sale 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 the Purchaser'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.

**Sale Name:** Sidnaw Creek

**Contract No:**

The following conditions apply to the indicated portions of Division BT - Standard Provisions issued June 2006.

**AT1 - Location and Area**, applicable to BT1.1

This Sale Area of 1025 acres more or less is located in:

T48N-R35W S.7,8,17,18,19, & 20 Houghton County

**AT2 - Volume Estimate and Utilization Standards**, applicable to BT2.1, BT2.2, BT2.4, and BT6.4

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
Mixed Conifer	Sawtimber	14.00	CCF	9.0	1	8	7.6	40
Mixed Hardwood	Sawtimber	83.00	CCF	11.0	1	8	9.6	50
Red & White Pine	Sawtimber	235.00	CCF	9.0	1	8	7.6	40
Aspen	Pulpwood	5,092.00	CCF	5.0	1	8	4.0	70
Jack Pine	Pulpwood	155.00	CCF	5.0	1	8	4.0	70
Mixed Conifer	Pulpwood	110.00	CCF	5.0	1	8	4.0	70
Mixed Hardwood	Pulpwood	1,247.00	CCF	5.0	1	8	4.0	70
Pine	Pulpwood	321.00	CCF	5.0	1	8	4.0	70
<b>Total Quantity</b>		7,257.00	CCF					

\* Quantities not included here are described in BT2.4.

**AT3- Timber Designations**, applicable to BT2.3; acres are approximate:

	Number	Acres
Clearcutting Units (BT2.31)	_____	_____
Specified Road Clearing (BT2.32)	_____	_____
Overstory Removal Units (BT2.33)	_____	_____
Understory Removal Units (BT2.34)	_____	_____
Individual Trees (BT2.35)	_____	389
Incompletely Measured Payment Units (BT2.36)	_____	_____

Sale Name: Sidnaw Creek

Contract No:

**AT4 - Timber Payment Rates**, applicable to BT3.1 and BT4.0

**AT4a** - For Species and Products to be Paid for at Rates Escalated under BT3.2

**Not Applicable**

**AT4b**- For Species and Products to be Paid for at Flat Rates

Species	Product	Unit of Measure	Rates per Unit of Measure				Required Deposits Slash Disposal \$
			Base \$	Advertised \$	Bid Premium \$	Bid (Flat) \$	
Mixed Conifer	Sawtimber	CCF	5.76	11.89			.00
Mixed Hardwood	Sawtimber	CCF	21.08	61.35			.00
Red & White Pine	Sawtimber	CCF	19.92	57.60			.00
Aspen	Pulpwood	CCF	9.89	29.67			.00
Jack Pine	Pulpwood	CCF	12.62	38.50			.00
Mixed Conifer	Pulpwood	CCF	5.49	15.48			.00
Mixed Hardwood	Pulpwood	CCF	5.51	15.54			.00
Pine	Pulpwood	CCF	19.01	59.12			.00

For purposes of convenience in collection and bookkeeping, Bid Rates stated in AT4 include payment of deposits for sale area betterment required pursuant to 16 USC 576b. Such deposits are not included as Required Deposits defined hereunder.

Sale Name: Sidnaw Creek

Contract No:

AT4c - Schedule of Payment Units

Payment Unit No.	Approx. Acres	Quantity of Species and Products to be Escalated under AT4a	Total Tentative Payment \$	Quantity of Species and Products to be Paid for at Flat Rates under AT4b	Total Flat Rate Payment \$	Total Required Deposits for Slash Disposal \$
001	15			Mixed Conifer Sawtimber 1.00 CCF		.00
				Mixed Hardwood Sawtimber 0.00 CCF		
				Red & White Pine Sawtimber 29.00 CCF		
				Aspen Pulpwood 96.00 CCF		
				Jack Pine Pulpwood 18.00 CCF		
				Mixed Conifer Pulpwood 1.00 CCF		
				Mixed Hardwood Pulpwood 3.00 CCF		
				Pine Pulpwood 54.00 CCF		
					<b>Total PU Quantity And Value</b>	
002	23			Mixed Conifer Sawtimber 1.00 CCF		.00
				Mixed Hardwood Sawtimber 1.00 CCF		
				Red & White Pine Sawtimber 1.00 CCF		
				Aspen Pulpwood 451.00 CCF		
				Jack Pine Pulpwood 7.00 CCF		
				Mixed Conifer Pulpwood 5.00 CCF		
				Mixed Hardwood Pulpwood 24.00 CCF		
				Pine Pulpwood 0.00 CCF		
					<b>Total PU Quantity And Value</b>	
003	37			Mixed Conifer Sawtimber 2.00 CCF		.00
				Mixed Hardwood Sawtimber 0.00 CCF		
				Red & White Pine Sawtimber 0.00 CCF		
				Aspen Pulpwood 468.00 CCF		
				Jack Pine Pulpwood 2.00 CCF		
				Mixed Conifer Pulpwood 32.00 CCF		
				Mixed Hardwood Pulpwood 140.00 CCF		
				Pine Pulpwood 1.00 CCF		
					<b>Total PU Quantity And Value</b>	
004	28			Mixed Conifer Sawtimber 2.00 CCF		.00
				Mixed Hardwood Sawtimber 1.00 CCF		
				Red & White Pine Sawtimber 0.00 CCF		
				Aspen Pulpwood 485.00 CCF		
				Jack Pine Pulpwood 29.00 CCF		
				Mixed Conifer Pulpwood 19.00 CCF		
				Mixed Hardwood Pulpwood 109.00 CCF		
				Pine Pulpwood 0.00 CCF		
					<b>Total PU Quantity And Value</b>	
005	35			Mixed Conifer Sawtimber 2.00 CCF		.00
				Mixed Hardwood Sawtimber 2.00 CCF		
				Red & White Pine Sawtimber 0.00 CCF		
				Aspen Pulpwood 533.00 CCF		
				Jack Pine Pulpwood 0.00 CCF		
				Mixed Conifer Pulpwood 14.00 CCF		
				Mixed Hardwood Pulpwood 146.00 CCF		
				Pine Pulpwood 0.00 CCF		
					<b>Total PU Quantity And Value</b>	

Sale Name: Sidnaw Creek

Contract No:

Payment Unit No.	Approx. Acres	Quantity of Species and Products to be Escalated under AT4a	Total Tentative Payment \$	Quantity of Species and Products to be Paid for at Flat Rates under AT4b	Total Flat Rate Payment \$	Total Required Deposits for Slash Disposal \$
006	17			Mixed Conifer Sawtimber 1.00 CCF		.00
				Mixed Hardwood Sawtimber 0.00 CCF		
				Red & White Pine Sawtimber 0.00 CCF		
				Aspen Pulpwood 233.00 CCF		
				Jack Pine Pulpwood 20.00 CCF		
				Mixed Conifer Pulpwood 7.00 CCF		
				Mixed Hardwood Pulpwood 28.00 CCF		
				Pine Pulpwood 0.00 CCF		
				<b>Total PU Quantity And Value</b> 289.00 CCF		
007	35			Mixed Conifer Sawtimber 1.00 CCF		.00
				Mixed Hardwood Sawtimber 6.00 CCF		
				Red & White Pine Sawtimber 0.00 CCF		
				Aspen Pulpwood 384.00 CCF		
				Jack Pine Pulpwood 0.00 CCF		
				Mixed Conifer Pulpwood 6.00 CCF		
				Mixed Hardwood Pulpwood 134.00 CCF		
				Pine Pulpwood 0.00 CCF		
				<b>Total PU Quantity And Value</b> 531.00 CCF		
008	37			Mixed Conifer Sawtimber 2.00 CCF		.00
				Mixed Hardwood Sawtimber 55.00 CCF		
				Red & White Pine Sawtimber 0.00 CCF		
				Aspen Pulpwood 427.00 CCF		
				Jack Pine Pulpwood 2.00 CCF		
				Mixed Conifer Pulpwood 6.00 CCF		
				Mixed Hardwood Pulpwood 208.00 CCF		
				Pine Pulpwood 0.00 CCF		
				<b>Total PU Quantity And Value</b> 700.00 CCF		
009	24			Mixed Conifer Sawtimber 0.00 CCF		.00
				Mixed Hardwood Sawtimber 0.00 CCF		
				Red & White Pine Sawtimber 51.00 CCF		
				Aspen Pulpwood 3.00 CCF		
				Jack Pine Pulpwood 1.00 CCF		
				Mixed Conifer Pulpwood 1.00 CCF		
				Mixed Hardwood Pulpwood 3.00 CCF		
				Pine Pulpwood 171.00 CCF		
				<b>Total PU Quantity And Value</b> 230.00 CCF		
010	39			Mixed Conifer Sawtimber 0.00 CCF		.00
				Mixed Hardwood Sawtimber 10.00 CCF		
				Red & White Pine Sawtimber 0.00 CCF		
				Aspen Pulpwood 720.00 CCF		
				Jack Pine Pulpwood 0.00 CCF		
				Mixed Conifer Pulpwood 3.00 CCF		
				Mixed Hardwood Pulpwood 160.00 CCF		
				Pine Pulpwood 0.00 CCF		
				<b>Total PU Quantity And Value</b> 893.00 CCF		
011	28			Mixed Conifer Sawtimber 0.00 CCF		.00
				Mixed Hardwood Sawtimber 5.00 CCF		
				Red & White Pine Sawtimber 0.00 CCF		
				Aspen Pulpwood 503.00 CCF		
				Jack Pine Pulpwood 0.00 CCF		
				Mixed Conifer Pulpwood 0.00 CCF		
				Mixed Hardwood Pulpwood 122.00 CCF		
				Pine Pulpwood 0.00 CCF		
				<b>Total PU Quantity And Value</b> 630.00 CCF		

Sale Name: Sidnaw Creek

Contract No:

Payment Unit No.	Approx. Acres	Quantity of Species and Products to be Escalated under AT4a	Total Tentative Payment \$	Quantity of Species and Products to be Paid for at Flat Rates under AT4b	Total Flat Rate Payment \$	Total Required Deposits for Slash Disposal \$
012	24			Mixed Conifer Sawtimber 0.00 CCF		
				Mixed Hardwood Sawtimber 2.00 CCF		
				Red & White Pine Sawtimber 0.00 CCF		
				Aspen Pulpwood 451.00 CCF		
				Jack Pine Pulpwood 0.00 CCF		
				Mixed Conifer Pulpwood 1.00 CCF		
				Mixed Hardwood Pulpwood 139.00 CCF		
				Pine Pulpwood 0.00 CCF		
013	46			Mixed Conifer Sawtimber 0.00 CCF		
				Mixed Hardwood Sawtimber 0.00 CCF		
				Red & White Pine Sawtimber 114.00 CCF		
				Aspen Pulpwood 255.00 CCF		
				Jack Pine Pulpwood 65.00 CCF		
				Mixed Conifer Pulpwood 1.00 CCF		
				Mixed Hardwood Pulpwood 6.00 CCF		
				Pine Pulpwood 75.00 CCF		
014	1			Mixed Conifer Sawtimber 2.00 CCF		
				Mixed Hardwood Sawtimber 1.00 CCF		
				Red & White Pine Sawtimber 40.00 CCF		
				Aspen Pulpwood 83.00 CCF		
				Jack Pine Pulpwood 11.00 CCF		
				Mixed Conifer Pulpwood 14.00 CCF		
				Mixed Hardwood Pulpwood 25.00 CCF		
				Pine Pulpwood 20.00 CCF		

**Sale Name:** Sidnaw Creek

**Contract No:**

The following definitions are established for the terms used in AT4:

**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 BT3.31, BT3.32, or BT3.33.

**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 AT7, but are never less than Base Rates.

**Bid Premium Rates** are the amounts by which Purchaser's bid is in excess of Advertised Rates. The Bid Premium Rates are constant during this contract, except as provided in BT3.31, BT3.32, and BT3.33.

**Bid Rates** are the rates bid by Purchaser (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 AT4a is the Tentative Rate that is subject to quarterly adjustment under BT3.2; for species and products in AT4b, the Bid Rate is the Flat Rate.

**Required Deposits** are deposits that Purchaser 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 CT5.32#.

**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 BT3.2.

**AT5 - Indices Used in Quarterly Adjustment**, applicable to BT3.2

**Not Applicable**

**AT6 - High Stumps**, applicable to BT6.412

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



Sale Name: Sidnaw Creek

Contract No:

**AT7 - Specified Roads**, applicable to BT5.2

Name and Date of Governing Road Specifications: FP-14 Federal Highway Administration Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, as amended and supplemented (English)

Project		Design Class	Approx. Length (mi./km.)	Sheet Numbers and Approval Date	Performance Responsibility		
Road No.	Name				Survey	Design	Construction Staking <sup>1/</sup>
2210	FDR2210 (C) (segment 1.51 to 1.51)	Single Lane - 15 mph	0 / 0	SR-01 thru SR-37 01/10/2019	FS	FS	FS AC
2210	FDR2210 (C) (segment 1.88 to 1.88)	Single Lane - 15 mph	0 / 0	SR-01 thru SR-37 01/10/2019	FS	FS	FS AC
2210-E	FDR2210-E (C) (segment .14 to .14)	Single Lane - 15 mph	0 / 0	SR-01 thru SR-37 01/10/2019	FS	FS	FS AC
2210-I	FDR2210-I (C) (segment .5 to .5)	Single Lane - 15 mph	0 / 0	SR-01 thru SR-37 01/10/2019	FS	FS	FS AC
2210-I	FDR2210-I (C) (segment .89 to 1.04)	Single Lane - 15 mph	.15 / .24	SR-01 thru SR-37 01/10/2019	FS	FS	FS AC
2210-I	FDR2210-I (C) (segment 1.41 to 1.41)	Single Lane - 15 mph	0 / 0	SR-01 thru SR-37 01/10/2019	FS	FS	FS AC
2210-I	FDR2210-I (C) (segment 1.94 to 1.94)	Single Lane - 15 mph	0 / 0	SR-01 thru SR-37 01/10/2019	FS	FS	FS AC
2210-I	FDR2210-I (R) (segment 0 to .89)	Single Lane - 15 mph	.89 / 1.43	SR-01 thru SR-37 01/10/2019	FS	FS	FS AC
2210-I	FDR2210-I (R) (segment 1.04 to 2.03)	Single Lane - 15 mph	.99 / 1.59	SR-01 thru SR-37 01/10/2019	FS	FS	FS AC

<sup>1/</sup> Indicate timing, i.e., before clearing (BC) or after clearing (AC). Applicable to BT5.212.

**AT8 - Forest Service Engineering Completion Schedule**, applicable to BT5.21

Road No.	Road Name	Type of Work	Completion Date
<b>NOT APPLICABLE</b>			

**AT9 - Fire Precautionary Period**, applicable to BT7.2

April 01 to November 15, inclusive

**AT10 - Purchaser Responsibility to Furnish Crews and Equipment for:**

**Initial Fire Suppression**, applicable to BT7.3

Within 5.0 road miles

**Fire Suppression Reinforcement**, applicable to BT7.312 and BT7.313

Within 20.0 road miles

**AT11 - Purchaser's Obligation per Operations Fire**, applicable to BT7.41

Maximum Amount: \$ \$1,000

**Sale Name:** Sidnaw Creek

**Contract No:** \_\_\_\_\_

---

**AT12 - Termination Date**, applicable to BT8.2

October 31, 2023

**AT13 - Normal Operating Season**, applicable to BT6.31, BT6.66, BT8.21 and BT9.3

**First Period:** December 15 to March 15 , inclusive

**Second Period:** July 01 to September 30 , inclusive

**AT14 - Performance Bond**, applicable to BT9.1

**Performance Bond Amount:** \_\_\_\_\_

Sale Name: Sidnaw Creek

Contract No:

**AT15 - Downpayment**, applicable to BT4.211

**Downpayment Amount:** \_\_\_\_\_

**AT16 - Periodic Payment Amount**, applicable to BT4.213

	<u>Periodic Payment Determination Date</u>	<u>Amount</u>
<b>Initial Payment:</b>	_____	_____
<b>Additional Payment:</b>	_____	_____

**AT17 - Market-Related Contract Term Addition Producer Price Index**, applicable to BT8.212

**Index Name:** Wood Chips      **Index Number:** 3211135

**AT18 - Inapplicable Standard Provisions**

The following listed Sections, Subsections, or Items of Division BT - Standard Provisions - are hereby made inapplicable. (Instructions: List by reference number and title.)

BT4.211	DOWNPAYMENT
BT4.4	PAYMENTS NOT RECEIVED
BT8.212	MARKET-RELATED CONTRACT TERM ADDITION
BT8.64	DEBARMENT AND SUSPENSION CERTIFICATION

**AT19 - List of Special Provisions**

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

CT2.302#	BOUNDARY TREES (06/2009)
CT2.352#	DESIGNATION BY SPECIES AND DIAMETER (04/2004)
CT2.355#	INDIVIDUAL TREES, CUT TREE MARKING (06/2009)
CT4.211	DOWNPAYMENT (06/2007)
CT4.212	TEMPORARY REDUCTION OF DOWNPAYMENT (08/2009)
CT4.4	PAYMENTS NOT RECEIVED (08/2012)
CT5.103#	APPROACHES TO SURFACED ROADS (06/2009)
CT5.12#	USE OF ROADS BY PURCHASER (06/1999)
CT5.213#	DEPOSIT FOR RECONSTRUCTION ENGINEERING SERVICES (04/2004)
CT5.221#	MATERIAL SOURCES (04/2004)
CT5.31#	ROAD MAINTENANCE REQUIREMENTS (07/2001)
CT5.33#	SNOW REMOVAL (06/2009)
CT6.314#	OPERATING REQUIREMENTS (06/2009)
CT6.412	STUMP MARKS (06/2009)
CT6.62#	SITE SPECIFIC WETLANDS PROTECTION MEASURES (07/2001)
CT6.63#	TEMPORARY ROAD CLOSURE (06/2009)
CT6.7#	SLASH DISPOSAL MEASURES (06/2009)
CT7.2	FIRE PRECAUTIONS (06/2009)
CT8.212	MARKET-RELATED CONTRACT TERM ADDITION (11/2008)
CT8.64	DEBARMENT AND SUSPENSION CERTIFICATION (03/2018)

There are no pages 108 & 109.

Sale Name: Sidnaw Creek

CT2.302# - BOUNDARY TREES (06/2009)

Boundary trees for all harvest units have been designated with 3 slashes on exterior Boundaries and 2 slashes on interior common boundaries - all slashes face into Payment Unit and are comprised of Orange paint marks above and below stump height. Boundary trees shall not be cut.

CT2.352# - DESIGNATION BY SPECIES AND DIAMETER (04/2004)

Trees that meet Utilization Standards are designated for cutting, as shown on the Tree Designation Table and Sale Area Map, except trees Marked with Orange paint or described to be left uncut.

**See Tree Designation Table.**

Additional trees to be cut, if any, are Marked with Blue paint.

All N/A shall be left as leave trees, unless Marked with N/A paint. Leave N/A trees of the designated cut species, N/A inches stump diameter or greater, to avoid leave tree spacing greater than N/A feet. Cutting unit boundaries and other trees that shall be left uncut are Marked with Orange paint.

Distances are measured horizontal distance, outside bark stump height to outside bark stump height. Stump diameter is measured outside bark at stump height in a horizontal and is the average of a measurement across the short axis through the true center of the stump and a second measurement at right angles to the short axis.

Purchaser and Forest Service shall agree to skid trail location under BT6.422. Skid trails shall be no greater than N/A feet wide with a N/A foot spacing. Quantities of trees located in skid trails are not (unless included as a designated species in Tree Designation Table) Included Timber under AT2.

Sale Name: Sidnaw Creek

Page 142

CT2.352# - DESIGNATION BY SPECIES AND DIAMETER. (04/04)

Tree Designation Table

Payment Unit(s)	Designated Species	More Than Stump Diameter (inches)	Less Than Stump Diameter (inches)
002-008, & 010-012 (LT, CT)	All <b>EXCEPT Cedar, Hemlock, Red Pine, &amp; White Pine</b>	>= 6.0"	N/A

Sale Name: Sidnaw Creek

CT2.355# - 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 Unit(s). Areas of cut tree marking are shown on the Sale Area Map with the symbol "CTM."

**PAYMENT UNIT(S)**

**PAINT COLOR**

**Sale Name:** Sidnaw Creek

Page 144

CT2.355# - INDIVIDUAL TREES, CUT TREE MARKING. (06/2009)

Cut Tree Marking Table

Payment Units	Paint Color
001, 009, 013	BLUE
014 (ROW)	YELLOW



Sale Name: Sidnaw Creek

CT4.211 - DOWNPAYMENT (06/2007)

The downpayment amount shown in AT15 may not be applied toward any other payment required under the provisions of this contract, except damages determined pursuant to BT9.4, transferred to other timber sales, or refunded until (a) stumpage value representing 25 percent of the total bid value of the timber sale is shown on Timber Sale Account to have been cut, removed, and paid for, or (b) the estimated value remaining to be cut and removed, as shown on Timber Sale Account, is equal to or less than the amount of the downpayment, or (c) if 36 CFR 223.49(e) is applicable, the estimated value remaining to be cut and removed, as shown on Timber Sale Account, is equal to or less than the amount of the downpayment. For lump sum timber sales, the downpayment may be applied to payment for release of the single payment unit.

If Forest Service makes a determination that this contract should not have been included under increased downpayment requirements (36 CFR 223.49(e)), the downpayment shall be revised and applied in accordance with 36 CFR 223.49(f).

CT4.212 - TEMPORARY REDUCTION OF DOWNPAYMENT (08/2009)

Notwithstanding BT4.211 or CT4.211, upon the Purchaser's written request Forest Service may temporarily reduce the downpayment when Purchaser's scheduled operations are delayed or interrupted for 30 or more consecutive days, or the contract term is extended for 30 or more consecutive days for any of the following reasons:

- (1) Forest Service requests or orders Purchaser to delay or interrupt scheduled operations for reasons other than breach;
- (2) Purchaser interrupts or delays scheduled operations to work on a sale designated by the Forest Service as in urgent need of harvesting; or
- (3) An adjustment of the contract term authorized upon a determination of substantial overriding public interest, including a market-related contract term addition, or an urgent removal contract term extension under 36 CFR 223.53.

When Purchaser is not cutting or removing timber under contract during a qualifying period of delay, interruption, or extension listed above the downpayment may be reduced to \$1000 or 2 percent of the downpayment amount stated in the contract, whichever is greater. The Purchaser must restore the downpayment to the full amount stated in the contract within 15 days from receipt of the bill for collection and written notice from the Contracting Officer that the basis for temporarily reducing the downpayment no longer exists. Purchaser shall not cut or remove timber on a contract where the downpayment has been temporarily reduced until the downpayment amount stated in the contract is fully restored.

Sale Name: Sidnaw Creek

CT4.4 - 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 Purchaser'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 BT4.218;
- (iii) Damages pursuant to BT9.4;
- (iv) Road use fees;
- (v) Restoration of downpayment pursuant to BT4.22;
- (vi) Periodic payments pursuant to BT4.213;
- (vii) Extension Deposits pursuant to BT4.217; 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 BT9.3. 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 Purchaser'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 Purchaser's Operations, and administrative offset, shall be stayed for so long as:

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

CT5.103# - APPROACHES TO SURFACED ROADS (06/2009)

Purchaser shall apply and maintain 4 inches of pit run or crushed aggregate (see Engineers Temporary Road/Development Appraisal) on all Temporary Road approaches to surfaced roads for a distance of 50 feet back from the surfaced road. Surfaced roads include those with gravel, crushed rock, or asphalt (ie, FR 2210).

Sale Name: Sidnaw Creek

CT5.12# - USE OF ROADS BY PURCHASER (06/1999)

Purchaser's use of existing roads identified on Sale 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. Purchaser's use of roads coded R, A, or W shall be in accordance with the following restrictions:

**See Restricted Road List Table.**

**Sale Name:** Sidnaw Creek

CT5.12# - USE OF ROADS BY PURCHASER. (06/1999)

**Restricted Road List**

Road Number	Road Name	Termini (miles)		Map Legend	Description of Restrictions
		From	To		
2210-E	FR 2210-E	0.17	south boundary of PU 8	X	Hauling Prohibited.
2210-E	FR 2210-E	south boundary of PU 8	POE	P	Use Prohibited.
2210-H	FR 2210-H	0.03	south end PU 6	X	Hauling Prohibited.
2210-H	FR 2210-H	south end PU 6	POE	P	Use Prohibited.
2210-I	FR 2210-I	2.03	POE	P	Use Prohibited.
2213	FR 2213	POB	POE	X	Hauling Prohibited.
2500	FR 2500	At Coontail Pit	At Coontail Pit	R	Gate present. Keep closed when not in use.

POB = Point of Beginning

POE = Point of Ending

Note: hauling includes empty or loaded log trucks.

Sale Name: Sidnaw Creek

CT5.213# - DEPOSIT FOR RECONSTRUCTION ENGINEERING SERVICES (04/2004)

Purchaser shall make a cash deposit for engineering services (preconstruction and construction) provided by Forest Service for reconstruction of National Forest system roads necessary to accommodate Purchaser's use under this contract, pursuant to 16 USC 537.

The total amount to be deposited by Purchaser for reconstruction related engineering services to be completed by Forest Service personnel or by public works contract is \$1,525.00. Purchaser shall make this deposit at the end of the first full Normal Operating Season or 12 months from contract award, whichever occurs first. In the event a different deposit schedule is agreed to, such deposit shall be due within 15 days after the date of issue indicated on the initial bill for collection, pursuant to BT4.4.

The amount of the required deposit will be shown as an associated charge on Purchaser's Timber Sale Account. Forest Service shall retain any unexpended deposit for reconstruction related engineering services.

The deposit for reconstruction related engineering services shall be commensurate with project need and Purchaser's road use. Forest Service shall complete reconstruction related engineering services on the following schedule unless a different completion schedule is agreed in writing:

Road or Facility No.	Termini From To		Engineering Services Completion Date
-------------------------	--------------------	--	---

---

N/A

Reconstruction related engineering services may consist of some or all of the engineering work and expense of: preparing, setting out, controlling, inspecting, and measuring the reconstruction of a National Forest system road.

Sale Name: Sidnaw Creek

CT5.221# - MATERIAL SOURCES (04/2004)

Sources of local materials are designated on Plans and Sale Area Map. Forest Service assumes responsibility for the quality and quantity of material in designated sources. Purchaser shall determine the equipment and work required to produce the specified product, including the selection of acceptable material that is reasonably available in the source that meets specifications. The designation of source includes the rights of Purchaser to use certain area(s) for plant site, stockpiles, and haul roads.

Should the designated source, due to causes beyond the control of Purchaser, contain insufficient acceptable material, Forest Service will provide another source with adjustment in accordance with BT5.253.

When Purchaser elects not to use designated sources, Purchaser shall furnish the specified product with no adjustment in unit rates. Quality testing shall be the responsibility of Purchaser. Test results shall be furnished to Forest Service.

When Purchaser elects not to use designated sources and the Schedule of Items lists pit development separately, cost allowance will be reduced under BT5.253 when Forest Service determines the work will not be required.

When materials are subject to a weight measurement, the specific gravity or weight/volume relationship used as a basis for determination of estimated quantities shall be:

Source I N/A, Source II N/A, and Source III N/A.

Purchaser may, when agreed in writing, use on the project such suitable stone, gravel, and sand, or other material found in the excavation, and will earn a cost allowance for the excavation of such materials at the corresponding contract unit price and for the pay items for which the excavated material is used. Purchaser shall replace, without additional cost allowance, sufficient suitable materials to complete the portion of the work, which was originally contemplated to be constructed with such material. Purchaser shall not excavate or remove any material, except that which is within the excavation limits, without written authorization from Forest Service.

When material is appraised from non-National Forest designated sources, owner charges for the material in terms of unit cost for royalties, purchase of raw materials, or finished products shall be as follows until N/A:

**See Material Source Table.**

Should quantity vary from that estimated, payment to owners shall be for units actually obtained. Purchaser shall make arrangements with owner(s) for measurement and payment for royalties, purchase of raw materials, or finished products, as shown above.

Materials produced or processed from National Forest lands in excess of the quantities required for performance of this contract are the property of Forest Service, unless prior written agreement has been obtained to use excess material on other National Forest sales. Forest Service is not obligated to reimburse Purchaser for the cost of their production.

Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials shall be located to facilitate their prompt inspection. Sites on Forest Service administered land, approved by Forest Service, may be used for storage purposes and for the placing of Purchaser's plant equipment. All storage sites provided by Forest Service shall be restored at Purchaser's expense. Purchaser shall be responsible for making arrangements for storage on other than Forest Service adminis-

Sale Name: Sidnaw Creek

tered lands.

When the construction of the portion of the project for which Temporary Roads used for hauling materials is completed, all such Temporary Roads shall be restored as nearly as practicable to their original ground profile, unless otherwise agreed in writing.

\*\*\*\*Sample Contract\*\*\*\*

**Sale Name:** Sidnaw Creek

Page 152

FS-2400-6T (04/04)

WO-CT5.221# - MATERIAL SOURCES. (04/04)

<b>Material</b>	<b>Type of Purchase</b>	<b>Owner(s)</b>	<b>Unit of Measure</b>	<b>Unit Price</b>	<b>Estimated Quantity</b>	<b>Total</b>
N/A	N/A	N/A	N/A	N/A	N/A	N/A



Sale Name: Sidnaw Creek

CT5.31# - ROAD MAINTENANCE REQUIREMENTS (07/2001)

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

**See Contract Road Maintenance Requirements Summary Table.**

Sale Name: Sidnaw Creek

Page 154

WO-CT5.31# - ROAD MAINTENANCE REQUIREMENTS. (07/2001)

**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-8620
2210-E	0.00	0.17	0.17	P	P	P			P	
2210-H	0.00	0.03	0.03	P	P	P			P	
2210-I	0.00	2.03	2.03	P						
2210	1.51	1.51	N/A	P						
2210	1.88	1.88	N/A	P						
2500	Gate at Coontail Pit	Gate at Coontail Pit	N/A							P

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

Road	Termini		Miles	Applicable During Haul Road Maintenance						
	From	To		T-8030	T-8130	T-8310	T-8340	T-8350	T-8360	T-8620
2210-E	0.00	0.17	0.17	P	P <sup>1/</sup>	P	P		P	
2210-H	0.00	0.03	0.03	P	P <sup>1/</sup>	P	P		P	
2210-I	0.00	2.03	2.03	P	P <sup>1/</sup>	P	P		P	
2210	1.51	1.51	N/A	P	P <sup>1/</sup>	P	P		P	
2210	1.88	1.88	N/A	P	P <sup>1/</sup>	P	P		P	
2500	Gate at Coontail Pit	Gate at Coontail Pit	N/A							P

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

<sup>1/</sup> A grand total of 100 CY (130 CY loose) pit run gravel to be spot placed as directed by USFS.

Road	Termini		Miles	Applicable Post Haul Road Maintenance Specifications						
	From	To		T-8030	T-8130	T-8310	T-8340	T-8350	T-8360	T-8620
2210-E	0.00	0.17	0.17			P		P	P	P
2210-H	0.00	0.03	0.03			P		P	P	P
2210-I	0.00	2.03	2.03			P		P	P	P
2210	1.51	1.51	N/A			P		P	P	
2210	1.88	1.88	N/A			P		P	P	
2500	Gate at Coontail Pit	Gate at Coontail Pit	N/A							P

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

Sale Name: Sidnaw Creek

CT5.33# - 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, Purchaser shall adhere to the following performance standards, unless otherwise agreed:

1. 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.
2. Snow shall be removed from the entire road width, including turnouts.
3. 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.
4. Openings will 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.
5. Tracked or clefted vehicles will not be used for snow removal without prior written approval of Forest Service Representative.

CT6.314# - OPERATING REQUIREMENTS (06/2009)

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

Restricted operations/activities:

004, 005, 008-010, & 013: Purchaser's operations are restricted during the period of 03/16 through 05/15 (due to soils).

No operating restrictions in Payment Units 001-003, 006, 007, 011, & 012.

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

-

Prohibited operations/activities:

Payment Units 001 - 013: Whole-tree harvesting is prohibited (due to soil productivity requirements).

CT6.412 - STUMP MARKS (06/2009)

Trees designated for cutting under BT2.35 have been marked with paint at breast height and below stump height. Trees shall be felled so as to leave paint on stump.

Sale Name: Sidnaw Creek

CT6.62# - SITE SPECIFIC WETLANDS PROTECTION MEASURES (07/2001)

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

Trees felled into Wetlands Protection areas shall be removed by endlining and any slash generated by the Purchaser's operations shall be removed as directed by the Forest Service.

CT6.63# - TEMPORARY ROAD CLOSURE (06/2009)

Notwithstanding Standard Provision BT6.63, 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 approximately 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.

Sale Name: Sidnaw Creek

CT6.7# - SLASH DISPOSAL MEASURES (06/2009)

Slash resulting from Purchaser'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 Special Provision CT6.6#.

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

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

Other specific slash disposal requirements are as follows:

All 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 shall be severed from the stem and righted on the ground or otherwise disposed of as directed by the Forest Service, concurrent with operations.

Within Payment Units 001-014 except as specified elsewhere in this contract; all slash generated by the Purchaser's operations shall be evenly distributed throughout the Payment Unit and away from the base of residual trees, concurrent with operations.

SDZ - As shown on the Sale Area Map for Payment Unit 006, 007, 008, 009, 010, & 013: Within a strip 50 feet in width, measured from the forested edge along FR 2210, all slash resulting from Purchaser's operations shall be lopped and scattered to lie within 3 feet of the ground, concurrent with operations.

Logging slash and stumps used in the construction of road closure berms are excluded from these Slash Disposal Measures.

Sale Name: Sidnaw Creek

CT7.2 - FIRE PRECAUTIONS (06/2009)

Unless other methods are agreed to in writing between the Purchaser and the Contracting Officer, the following specific precautionary measures are applicable during Purchaser's Operations in Fire Precautionary Period indicated in AT9.

1. Purchaser shall maintain Forest Service-approved spark arresting device 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 a one-pound multipurpose fire extinguisher readily available.
2. Purchaser shall require that smoking and the building of lunch or warming fires by Purchaser's employees, contractors, or employees of contractors be confined to designated safe places where flammable debris has been cleared away and where, at the option of the Purchaser, 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. Purchaser shall furnish serviceable firefighting tools. Location, numbers, and types of tools shall be specified in the Fire Prevention and Control Plan in accordance with BT7.1.

CT8.212 - 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 AT17. Purchaser 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 Purchaser'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 Purchaser'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 sale 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 Purchaser'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.

Sale Name: Sidnaw Creek

CT8.64 - DEBARMENT AND SUSPENSION CERTIFICATION (03/2018)

Pursuant to 2 CFR 180 and 2 CFR 417, Purchaser shall certify and obtain certifications from its Subcontractors regarding debarment, suspension, ineligibility, and voluntary exclusion, including additional Subcontractors obtained after award of this contract. 'Subcontractors' are participants in lower tier covered transactions.

Purchaser may rely upon a certification of a prospective Subcontractor that it is not proposed for debarment under 48 CFR 9.4, debarred, suspended, ineligible, or voluntarily excluded from participating in covered transactions or timber sales, unless Purchaser knows that the certification is erroneous.

Purchaser shall keep the certifications of its Subcontractors on file until timber sale Termination Date and any extensions thereof, and will provide a copy at the written request of Contracting Officer. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this Subsection. The knowledge and information of Purchaser is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

If Purchaser knowingly enters into a timber sale transaction with a person who is proposed for debarment under 48 CFR 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in covered transactions or timber sales, in addition to other remedies available to the Government, Forest Service may pursue available remedies, including suspension and/or debarment.

Contracting Officer shall provide a copy of Forms AD-1047, Certification Regarding Debarment, Suspension and Other Responsibility Matters-Primary Covered Transactions, and AD-1048, Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions to the Purchaser.

Purchaser shall complete form AD-1047 and provide to the Contracting Officer upon request.

Purchaser shall require each Subcontractor to complete form AD-1048 and provide to the Contracting Officer upon request.

**SIDNAW CREEK TIMBER SALE ROAD MAINTENANCE REQUIREMENTS**  
**FS-2400-6T Contracts (06/06)**  
**CT5.31# 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 **BT6.31**.

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 **BT8.31**.

**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.



**SIDNAW CREEK TIMBER SALE ROAD MAINTENANCE REQUIREMENTS**  
**FS-2400-6T Contracts (06/06)**  
**CT5.31# Special Provisions**

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.

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.

**SIDNAW CREEK TIMBER SALE ROAD MAINTENANCE REQUIREMENTS  
FS-2400-6T Contracts (06/06)  
CT5.31# Special Provisions**

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.

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 Summary in CT 5.31#.

**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-8620	Miscellaneous Maintenance

**SIDNAW CREEK TIMBER SALE ROAD MAINTENANCE REQUIREMENTS**  
**FS-2400-6T Contracts (06/06)**  
**CT5.31# Special Provisions**

**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.

EQUIPMENT

- 2.1 Purchaser may use any type of equipment to remove snow, providing:
- a. Type or use of equipment is not restricted in **CT5.12#** or Schedule document.
  - b. 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.
  - c. 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.

**SIDNAW CREEK TIMBER SALE ROAD MAINTENANCE REQUIREMENTS  
 FS-2400-6T Contracts (06/06)  
 CT5.31# Special Provisions**

**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.

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
Any Maintenance road in sale	Pit Run <sup>1/</sup>	(As Needed)	100 CY(130 CY)	See 3.2 above
2210-E	Crushed Aggregate	(As Staked)	15 CY (20 CY)	See 3.2 above
2210-H	Crushed Aggregate	(As Staked)	15 CY (20 CY)	See 3.2 above

<sup>1/</sup>Coontail Pit, as shown on Sale Area Map

<sup>2/</sup>Quantity of Material in ( ) = 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 Material is not needed, the estimated cost of surfacing not placed shall be charged to the Timber Sale Account in accordance with **BT8.31**.

**SIDNAW CREEK TIMBER SALE ROAD MAINTENANCE REQUIREMENTS**  
**FS-2400-6T Contracts (06/06)**  
**CT5.31# Special Provisions**

**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.
- 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.

**SIDNAW CREEK TIMBER SALE ROAD MAINTENANCE REQUIREMENTS  
FS-2400-6T Contracts (06/06)  
CT5.31# Special Provisions**

<b>Road Number</b>	<b>Location</b>	<b>Remove/Install</b>	<b>Type of Structure</b>	<b>Size</b>	<b>Quantity</b>
N/A	N/A	N/A	N/A	N/A	N/A

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.

**SIDNAW CREEK TIMBER SALE ROAD MAINTENANCE REQUIREMENTS**  
**FS-2400-6T Contracts (06/06)**  
**CT5.31# 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.
- 3.5 Entrance Devices. Upon completion of work, replace entrance devices to effectively eliminate access by motorized vehicles (ML-1).
- 3.6 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.

3.2 Drainage Facilities. Clean and recondition drainage facilities in accordance with T-8310 Ditch Cleaning and T-8340 Drainage Structure Maintenance. **Maintain all other structures per 3.1, item 5 above within termini indicated in CT5.31# 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.

**SIDNAW CREEK TIMBER SALE ROAD MAINTENANCE REQUIREMENTS**  
**FS-2400-6T Contracts (06/06)**  
**CT5.31# Special Provisions**

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-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.

**REQUIREMENTS**

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



**SIDNAW CREEK TIMBER SALE ROAD MAINTENANCE REQUIREMENTS  
 FS-2400-6T Contracts (06/06)  
 CT5.31# Special Provisions**

Excess Material carried into the cattle guard shall be removed when drainage is blocked or when it reaches six inches from the bottom of the cattle guard frame. Drainage into and from the cattle guard shall be kept open.

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 retro reflectivity requirements.

<b>Road Number</b>	<b>Road Name</b>	<b>Location</b>	<b>Remove/Install</b>	<b>Type of Item</b>	<b>Size</b>	<b>Quantity</b>
2210-E	FR 2210-E	<sup>3/</sup>	Remove/Install	Earthen Berm <sup>1/</sup>	<sup>2/</sup>	1
2210-H	FR 2210-H	<sup>3/</sup>	Install	Earthen Berm <sup>1/</sup>	<sup>2/</sup>	1
2210-I	FR 2210-I	<sup>3/</sup>	Install	Earthen Berm <sup>1/</sup>	<sup>2/</sup>	1
2500	FR 2500	At Coontail Pit	Maintain Gate	FS Gate	Existing	1

<sup>1/</sup> OHV passable berm

<sup>2/</sup> Per Typical Drawing—Earthen Berms/Road Closure Devices

<sup>3/</sup> At location Designated by Forest Service

Ottawa National Forest  
Kenton Ranger District

Specified Road Plan for Sidnaw Creek Timber Sale Contract prepared by:

T. KilpeLA

TRAVIS KILPELA  
Civil Engineering Technician

1/10/2019

Date

**Engineer Road Cost Estimates**

**Ottawa National Forest**

<b>HDPE Culverts/Pipes - Dual Walled</b>	<b>Price per Linear Foot (LF)</b>
12"	\$11.00
15"	\$14.00
18"	\$18.00
24"	\$29.00
30"	\$43.00
36"	\$53.00
<b>Galvanized Metal Pipes - Spiral Hel-Cor</b>	
	<b>Price per LF</b>
12" – 16 gauge	\$19.00
15" – 16 gauge	\$21.00
18" – 16 gauge	\$26.00
24" – 16 gauge	\$33.00
30" – 14 gauge	\$50.00
36" – 14 gauge	\$60.00
<b>Metal Pipe Arch - Spiral Hel-Cor</b>	
	<b>Price per LF</b>
17"x13" – 16 gauge	\$21.00
21"x15" – 16 gauge	\$27.00
24"x18" – 16 gauge	\$31.00
28"x20" – 16 gauge	\$34.00
35"x24" – 14 gauge	\$54.00
42"x29" – 14 gauge	\$65.00
49"x33" – 12 gauge	\$102.00
57"x38" – 12 gauge	\$116.00
64"x43" – 12 gauge	\$143.00
<b>Local Borrow</b>	<b>\$5.00/Cubic Yard and higher</b>
<b>Geotextile</b>	<b>\$2.50 - \$3.00 per Square Yard</b>
<b>Silt Fence</b>	<b>\$3.00 per LF</b>
<b>Roadwork</b>	
Minor Shaping and Grading	\$900.00 per mile
Maintenance – Shape to Crown/Outslope	\$2,000 to \$3,300 per mile
Reconstruction	\$3,300 to \$4,500 per mile
Shape to Ditch	\$2,700 per mile
Clearing and Widening	\$2,000 per acre
Composite Road Construction	\$4,500 to \$8,500 per mile

## SIDNAW CREEK TIMBER SALE SPECIFIED ROAD SCHEDULE OF ITEMS

Item Number	Item Description & Milepost	C or R <sup>1</sup>	Road Std. W,D,S <sup>2</sup>	Unit & M of M <sup>3</sup>	Quantity	Unit Allowance	Estimated Allowance
<b>FR 2210</b>			<b>D</b>				
<b>MP 1.51 Left</b>							
249 02	Construct truck turnaround	<b>C</b>		LS LSQ	1	\$600.00	\$600.00
301 22	Haul and place 15 CY of crushed aggregate for surfacing. (20 CY loose material)			CY DQ	15	\$15.00	\$225.00
<b>MP 1.88 Right</b>							
249 02	Construct truck turnaround	<b>C</b>		LS LSQ	1	\$600.00	\$600.00
301 22	Haul and place 15 CY of crushed aggregate for surfacing. (20 CY loose material)			CY DQ	15	\$15.00	\$225.00
<b>MP 1.88 Left</b>							
249 02	Construct truck turnaround	<b>C</b>		LS LSQ	1	\$600.00	\$600.00
301 22	Haul and place 15 CY of crushed aggregate for surfacing. (20 CY loose material)			CY DQ	15	\$15.00	\$225.00
<b>FR 2210 TOTAL SPECIFIED ROAD SCHEDULE OF ITEMS</b>							<b>\$2,475.00</b>
<b>FR 2210-E</b>			<b>D</b>				
<b>MP 0.14 Left</b>							
249 02	Construct truck turnaround	<b>C</b>		LS LSQ	1	\$600.00	\$600.00
301 22	Haul and place 15 CY of pit run for surfacing. (20 CY loose material)			CY DQ	15	\$15.00	\$225.00
<b>FR 2210-E TOTAL SPECIFIED ROAD SCHEDULE OF ITEMS</b>							<b>\$825.00</b>
<b>FR 2210-I</b>			<b>D</b>				
<b>MP 0.00-0.89 &amp; 1.04-2.03</b>							
249 01	Composite Road Construction: Reconstruct existing road in accordance with the specifications and standard plans.	<b>R</b>		Mile DQ	1.88	\$4,500.00	\$8,460.00
<b>MP 0.00-0.02</b>							
301 22	Haul and place 15 CY of crushed aggregate for surfacing. (20 CY loose material)			CY DQ	15	\$15.00	\$225.00
<b>MP 0.40-0.42</b>							
301 22	Haul and place 25 CY of pit run for surfacing. (33 CY loose material)			CY DQ	25	\$15.00	\$375.00

<sup>1</sup>C = Construction, R = Reconstruction

<sup>2</sup>W = Winter, D = Dry Summer, S = Summer

<sup>3</sup>Method of Measure

## SIDNAW CREEK TIMBER SALE SPECIFIED ROAD SCHEDULE OF ITEMS

Item Number	Item Description & Milepost	C or R <sup>1</sup>	Road Std. W,D,S <sup>2</sup>	Unit & M of M <sup>3</sup>	Quantity	Unit Allowance	Estimated Allowance
<b>MP 0.50 Right</b>							
249 02	Construct truck turnaround	C		LS LSQ	1	\$600.00	\$600.00
<b>MP 0.66</b>							
602 01	Furnish and install 24' of 17"x13" corrugated metal culvert pipe arch. Local borrow, as needed, for culvert installation shall be salvaged from roadbed.	R		FT DQ	24	\$25.00	\$600.00
<b>MP 0.66-0.67</b>							
301 22	Haul and place 25 CY of pit run for surfacing. (33 CY loose material)			CY DQ	25	\$15.00	\$375.00
<b>MP 0.89-1.04</b>							
249 01	Composite Road Construction: Construct re-route of road in accordance with the specifications and standard plans.	C		Mile DQ	0.15	\$8,500.00	\$1,275.00
<b>MP 0.89-0.93</b>							
301 22	Haul and place 50 CY of pit run for surfacing. (65 CY loose material)			CY DQ	50	\$15.00	\$750.00
<b>MP 0.89</b>							
602 01	Furnish and install 24' of 17"x13" corrugated metal culvert pipe arch. Local borrow, as needed, for culvert installation shall be salvaged from roadbed.	R		FT DQ	24	\$25.00	\$600.00
<b>MP 1.00-1.04</b>							
301 22	Haul and place 50 CY of pit run for surfacing. (65 CY loose material)			CY DQ	50	\$15.00	\$750.00
<b>MP 1.04</b>							
602 01	Furnish and install 24' of 17"x13" corrugated metal culvert pipe arch. Local borrow, as needed, for culvert installation shall be salvaged from roadbed.	R		FT DQ	24	\$25.00	\$600.00
<b>MP 1.21</b>							
602 01	Furnish and install 24' of 17"x13" corrugated metal culvert pipe arch. Local borrow, as needed, for culvert installation shall be salvaged from roadbed.	R		FT DQ	24	\$25.00	\$600.00
<b>MP 1.21-1.22</b>							
301 22	Haul and place 25 CY of pit run for surfacing. (33 CY loose material)			CY DQ	25	\$15.00	\$375.00
<b>MP 1.27</b>							

<sup>1</sup>C = Construction, R = Reconstruction

<sup>2</sup>W = Winter, D = Dry Summer, S = Summer

<sup>3</sup>Method of Measure

## SIDNAW CREEK TIMBER SALE SPECIFIED ROAD SCHEDULE OF ITEMS

Item Number	Item Description & Milepost	C or R <sup>1</sup>	Road Std. W,D,S <sup>2</sup>	Unit & M of M <sup>3</sup>	Quantity	Unit Allowance	Estimated Allowance
602 01	Furnish and install 24' of 42"x29" corrugated metal culvert pipe arch. Local borrow, as needed, for culvert installation shall be salvaged from roadbed.	R		FT DQ	24	\$69.00	\$1,656.00
<b>MP 1.25-1.29</b>							
301 22	Haul and place 50 CY of pit run for surfacing. (65 CY loose material)			CY DQ	50	\$15.00	\$750.00
<b>MP 1.41 Right</b>							
249 02	Construct truck turnaround	C		LS LSQ	1	\$600.00	\$600.00
<b>MP 1.94 Left</b>							
249 02	Construct truck turnaround	C		LS LSQ	1	\$600.00	\$600.00
<b>FR 2210-I TOTAL SPECIFIED ROAD SCHEDULE OF ITEMS</b>							<b>\$19,191.00</b>

<b>SIDNAW CREEK TIMBER SALE TOTAL SPECIFIED ROAD SCHEDULE OF ITEMS</b>	<b>\$22,491.00</b>
--	--------------------

<sup>1</sup>C = Construction, R = Reconstruction

<sup>2</sup>W = Winter, D = Dry Summer, S = Summer

<sup>3</sup>Method of Measure

## SIDNAW CREEK TIMBER SALE SPECIFIED ROADWORK NOTES

- 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:** During gravel hauling operations, “safety” signs shall be placed as directed by the Forest Service. See Sale Area Map for specific sign locations and Traffic Control Plan for sign size and type.
- NOTE:** Clearing and grubbing shall be done in accordance with supplemental specifications 249.02 and 249.04.
- NOTE:** All finished roadbeds shall be as shown in the typical drawing with 1’ ditches or out slopes as applicable.
- NOTE:** **60 CY of crushed aggregate** is required for specified roadwork; this volume plus the normal compaction factor of 130% computes to a loose volume of 78 CY. Material for this project may be taken from the **Coontail Pit**, located at **T47N, R35W, Section 1**. Some pit development may be required and is considered incidental to associated items. Compaction shall be method A.
- NOTE:** **240 CY of pit run aggregate** is required for specified roadwork; this volume plus the normal compaction factor of 130% computes to a loose volume of 312 CY. Material for this project may be taken from the **Coontail Pit**, located at **T47N, R35W, Section 1**. Some pit development may be required and is considered incidental to associated items. Compaction shall be method A.
- NOTE:** Contractor will be responsible for Soil Erosion and Sedimentation Control on this project with special emphasis given in the area of the new road construction for the re-route of FR 2210-I. In this area silt fence and check dams need to be in place before earthwork starts, along with other tools as needed to control soil erosion and sedimentation control.
- NOTE:** Corrugated metal culverts shall be galvanized steel and conform to FP-14 standard specification 707.02. If connecting bands are required 12” minimum length shall be used.
- NOTE:** Payment for culvert installation includes: Excavation, preparing the foundation, and backfilling. Compaction shall be Method A.

### SIDNAW CREEK TIMBER SALE SPECIFICATION LIST

The Forest Service, US Department of Agriculture has adopted FP-14 for construction of National Forest System Roads. FP-14 Standard Specifications are available on-line at <https://flh.fhwa.dot.gov/resources/specs/>. Forest Service Supplemental Specifications to FP-14 are included in the contract.

Road Numbers:		2210	2210-E	2210-I	
	Mileposts:			0.0-2.03	
	Construction Miles:			0.15	
	Reconstruction Miles:			1.88	
	Turnarounds:	3	1	3	
FP-14 Spec. No.	Title				Latest Revised Edition
101 thru 109	General Requirements	X	X	X	2014
157	Soil Erosion and Sedimentation Control	X	X	X	2014
209	Structure Excavation and Backfill			X	2014
301	Untreated Aggregate Courses	X	X	X	2014
602	Culverts and Drains			X	2014
FSSS Spec. No.	Title				Latest Revised Edition
101 thru 109	General Requirements	X	X	X	2014
209	Structure Excavation and Backfill			X	2014
249	Composite Road Construction	X	X	X	2014
301	Untreated Aggregate Courses	X	X	X	2014
602	Culverts and Drains			X	2014



--	--	--	--	--	--

## SIDNAW CREEK TIMBER SALE

### FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS TO FP-14

#### Preface

**Delete all but the first paragraph and add the following:**

The Forest Service, US Department of Agriculture has adopted FP-14 for construction of National Forest System Roads.

#### 101 - Terms, Format, and Definitions

**Add the following paragraph to Subsection 101.01:**

101.01 Meaning of Terms.

Delete all references to the FAR (Federal Acquisition Regulations) in the specifications when incorporating into 2400-6(T) Timber Sale or 2400-13(T) Stewardship contracts.

**Add the following paragraph to Subsection 101.01:**

101.01 Meaning of Terms.

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

**Add the following to Subsection 101.03:**

101.03 Abbreviations.

**(a) Acronyms.**

- AGAR — Agriculture Acquisition Regulations
- AFPA — American Forest and Paper Association
- FSAR — Forest Service Acquisition Regulations
- MSHA — Mine Safety and Health Administration
- NESC — National Electrical Safety Code
- WCLIB — West Coast Lumber Inspection Bureau

**(f) Miscellaneous unit abbreviations.**

MP	—	milepost	location
ppm	—	parts per million	volume
STA		station	location

**Make the following changes to Subsection 101.04:**

101.04 Definitions.

**Delete these definitions and replace the following:**

**Bid Schedule** — The Schedule of Items.

**Bridge** — A structure, including supports, erected over a depression or an obstruction such as water along a road, a trail, or a railway and having a deck for carrying traffic or other loads.

**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** — Any structure with a bottom, regardless of fill depth, depth of invert burial, or presence of horizontal driving surface, or any bottomless (natural channel) structure with footings that will not have wheel loads in direct contact with the top of the structure.

**Drawings** — (Public Works Contracts) Design sheets or fabrication, erection, or construction details submitted to the CO by the Contractor according to FAR Clause 52.236-21 Specifications and Drawings for Construction. Also refers to submissions and submittals.

**Notice to Proceed** — (Public Works Contracts) Written notice to the Contractor to begin the contract work.

**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.

**Solicitation**—(Public Works Contracts) The complete assembly of documents (whether attached or incorporated by reference) furnished to prospective bidders.

**Add the following definitions:**

**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.

**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 Streamcourse** — 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.

**Shop Drawings** — (Timber and Stewardship Contracts) Referred to as “Drawings” in FP-14, include drawings, diagrams, layouts, schematics, descriptive literature, illustrations, lists or tables, performance and test data, and similar materials furnished by Purchaser to explain in detail specific portions of the work required by the contract.

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

## 102 - Bid, Award, and Execution of Contract

**Delete Section 102 in its entirety.**

Delete Section 102.

## 103 - Scope of Work

**Delete all of Section 103 except Subsection 103.01 Intent of Contract.**

Delete Subsections 103.02, 103.03, 103.04, 103.05.

## 104 - Control of Work

**Delete Subsections 104.01, 104.02, and 104.04.**

Delete Subsections 104.01, 104.02, 104.04.

**Delete Subsection 104.03 and replace with the following:**

104.03 Specifications and Drawings.

Refer to B(T) 5.211 in the 2400-6(T)) or F(T).2.1.1 in the 2400-13(T) contracts for requirements under this subsection.

**Add the following to Subsection 104.06:**

104.06 Use of Roads by Contractor.

The Contractor is authorized to use roads under the jurisdiction of the Forest Service for all activities necessary to complete this contract, subject to the limitations and authorizations designated in the Road Order(s) or described in the contract, when such use will not damage the roads or national forest resources, and when traffic can be accommodated safely.

## 105 - Control of Material

Add the following to Subsection 105.02(a):

### 105.02(a) Government-provided sources.

Government-provided sources for this project are identified as follows:

(1) Government-provided mandatory sources.

Pay Item	Description	Material source number or name
	<b>Pit Run</b>	<b>Coontail Pit</b>
Pay Item	Description	Material source number or name
	<b>Crushed Aggregate</b>	<b>Coontail Pit</b>

(2) Government-provided optional sources for this project are identified as follows: N/A


If the Contractor elects to obtain material from <Material Source Number or name> the following applies:

(1) <e.g. Entry into source is limited to from July 1 to September 30<sup>th</sup>>

Add the following to Subsection 105.02c:

### 105.02(c) Contractor-located sources.

All material (e.g., soil, gravel, sand, borrow, aggregate, etc.) transported onto National Forest System land or incorporated into the work shall be weed-free. The Contracting Officer may request written documentation of methods used to determine the weed-free status of any and all materials furnished by the contractor. Contractor-provided expertise and methods to establish weed-free status must be appropriate for the weeds of concern in the local area. The following applies to this contract:

Weeds specific to this project: N/A

A Forest Service weed specialist will inspect proposed sources to determine weed-free status. Provide the Contracting Officer written notification of proposed material sources 30 days prior to use. Written approval of the specific source will be provided to the contractor by the CO. If weed species are present in the proposed source, appropriate mitigation measures may allow conditional use of the source as required by the Contracting Officer.

Add the following to Subsection 105.02 (a):

### 105.02 (a) Government-provided sources.

**Complete any pit or quarry development specified for a designated source, even when material is not obtained from the source.**

## 106 - Acceptance of Work

### **Delete Subsection 106.01 and replace with the following:**

#### 106.01 Conformity with Contract Requirements.

Follow the requirements of FAR Clause 52.246-12 Inspection of Construction.

References to standard test methods of AASHTO, ASTM, GSA, and other recognized standard authorities refer to the methods in effect on the date of solicitation for bids.

Perform all work to the lines, grades, cross-sections, dimensions, and processes or material requirements shown on the plans or specified in the contract.

Incorporate manufactured materials into the work according to the manufacturer's recommendations or to these specifications, whichever is more strict.

Plan dimensions and contract specification values are the values to be strived for and complied with as the design values from which any deviations are allowed. Perform work and provide material that is uniform in character and reasonably close to the prescribed value or within the specified tolerance range. The purpose of a tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons.

When standard manufactured items are specified (such as fence, wire, plates, rolled shapes, pipe conduits, etc., that are identified by gauge, unit mass, section dimensions, etc.), the identification will be considered to be nominal masses or dimensions. Unless specific contract tolerances are noted, established manufacturing tolerances will be accepted.

The Government may inspect, sample, or test all work at any time before final acceptance of the project. When the Government tests work, copies of test reports are furnished to the Contractor upon request. Government tests may or may not be performed at the work site. If Contractor testing and inspection is verified by the Government, the Contractor's results may be used by the Government to evaluate work for acceptance. Do not rely on the availability of Government test results for process control.

Acceptable work conforming to the contract will be paid for at the contract unit bid price. Four methods of determining conformity and accepting work are described in Subsections 106.02 to 106.05 inclusive. The primary method of acceptance is specified in each Section of work. However, work may be rejected at any time it is found by any of the methods not to comply with the contract.

Remove, repair, or replace work that does not conform to the contract, or to prevailing industry standards where no specific contract requirements are noted. Removing, repairing, or replacing work; providing temporary traffic control; and any other related work to accomplish conformity will be at no cost to the Government.

**(a) Disputing Government test results.** If the accuracy of Government test results is disputed, promptly inform the CO. If the dispute is unresolved after reasonable steps are taken to resolve the dispute, further evaluation may be obtained by written request. Include a narrative describing the dispute and a proposed resolution protocol that addresses the following:

1. Sampling method;
2. Number of samples;
3. Sample transport;
4. Test procedures;
5. Testing laboratories;

6. Reporting;
7. Estimated time and costs; and
8. Validation process.

If the evaluation requires additional sampling or testing be performed, mutually agree with the Government on witnessing procedures and on sampling and testing by a third party laboratory. Use a third party laboratory accredited by the AASHTO accreditation program. Provide proof of the laboratory's accreditation for the test procedures to be used. Do not use the same laboratory that produced the disputed Government test results or that produced the test results used as a basis for the dispute.

The CO will review the proposed resolution protocol and may modify it before final approval and execution.

The Government will use the approved resolution protocol test results to determine the validity of the disputed testing. If the Government test results are validated, the Contractor will be responsible for all costs associated with developing and performing the resolution protocol. If the Government test results are not validated, the Government will be responsible for all costs associated with developing and performing the resolution protocol. If the validity of the Government test results cannot be determined, the Contractor and Government will equally share all costs associated with developing and carrying out the resolution protocol.

**(b) Alternatives to removing and replacing non-conforming work.** As an alternative to removal and replacement, the Contractor may submit a written request to:

1. Have the work accepted at a reduced price; or
2. Be given permission to perform corrective measures to bring the work into conformity.

The request must contain supporting rationale and documentation. Include references or data justifying the proposal based on an evaluation of test results, effect on service life, value of material or work, quality, aesthetics, and other tangible engineering basis. The CO will determine disposition of the nonconforming work.

**Delete Subsection 106.02 and replace with the following:**

106.02 Visual Inspection.

Acceptance is based on visual inspection of the work for compliance with the specific contract requirements. Use prevailing industry standards in the absence of specific contract requirements or tolerances.

**Delete Subsection 106.07.**

106.07 Partial and Final Acceptance.

## 107 - Legal Relations and Responsibility to the Public

**Delete Subsection 107.05.**

Delete Subsection 107.05.

**Delete Subsection 107.08 and replace with the following:**

107.08 Sanitation, Health, and Safety.

Refer to specific provisions under B(T) 6.0 in the 2400-6(T) or G(T).0 in the 2400-13(T) contracts for requirements under this subsection.

## 108 - Prosecution and Progress

**Delete Section 108 in its entirety.**

Delete Section 108.

## 109 - Measurement and Payment

**Delete Subsections 109.06, 109.07, 109.08, and 109.09:**

Delete Subsections 109.06, 109.07, 109.08, 109.09.

**Add the following sentence to Subsection 109.02(b):**

109.02 Measurement Terms and Definitions.

**(b) Contract quantity.**

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

## 155 - Schedules for Construction Contracts

**Delete Section 155 in its entirety.**

Delete Section 155.

## 201 - Clearing and Grubbing

**Delete and replace Subsection 201.04(d) with the following:**

201.04(d) Clearing.

**(d)** Trim tree branches that extend over the road surface and shoulders to attain a clear height of **<number>** feet. Trim tree limbs as near flush with the trunk as practicable.

**Add the following paragraph to Subsection 201.04:**

201.04 Clearing.

**(e)** Do not cut vegetation less than 3 feet in height and less than 3 inches in diameter that is within the clearing limits but beyond the roadway and not in a decking area and that does not interfere with sight distance along the road unless otherwise designated.

**Delete the first sentence of this Subsection 201.06 and replace the following:**

201.06 Disposal.

Dispose of merchantable timber designated for removal according to the provisions of the timber sale contract.

## 203 - Removal of Structures and Obstructions

Make the following changes to Subsection 203.04(b):

### 203.04 (b) General.

Delete the fifth paragraph of Subsection 203.04(b) and replace with the following:

Remove structures and obstructions in the roadbed to 12 inches (300 millimeters) below subgrade elevation. Remove structures and obstructions outside the roadbed to 12 inches (300 millimeters) below finished ground or to the natural stream bottom.

Delete the seventh paragraph of Subsection 203.04(b) and replace with the following:

When abandoning an existing culvert pipe, remove the upstream and downstream portion of the culvert to within 12 inches (300 millimeters) of the subgrade or embankment slope. Ensure the abandoned pipe is at least 48 inches (1200 millimeters) from a new culvert or structure. Seal the abandoned culvert ends with a tight-fitting plug of concrete at least 6 inches (150 millimeters) thick. Ensure the structure does not entrap water.

Add the following to Subsection 203.05:

### 203.05 Disposing of Material.

**(e) Windrowing Construction Slash.** Place construction slash outside the roadway in neat, compacted windrows approximately parallel to and along the toe line of embankment slopes. Do not permit the top of the windrows to extend above subgrade. Use construction equipment to matt down all material in a windrow to form a compact and uniform pile. Construct breaks of at least 15 feet at least every 200 feet in a windrow. Do not place windrows against trees.

**(f) Scattering.** Scatter construction slash in designated areas without damaging trees. Limb all logs. Place logs and stumps away from trees, positioned so they will not roll, and are not on top of one another. Limb and scatter other construction slash to reduce slash concentrations. When scattering for erosion control, place construction slash as flat as practicable on the completed slope.

**(g) Chipping.** Use an approved chipping machine to chip slash longer than 3 feet. Deposit chips on embankment slopes or outside the roadway to a loose depth less than 6 inches. Minor amounts of chips or ground woody material may be permitted within the roadway if they are thoroughly mixed with soil and do not form a layer.

**(h) Debris Mat.** Use tree limbs, tops, cull logs, split stumps, wood chunks, and other debris to form a mat upon which construction equipment is operated. Place stumps upside down and blend stumps into the mat.

**(i) Decking.** Remove brush from designated log deck areas. Limb and top logs.

Logs not meeting the Utilization Standards described in Subsection 201.04(c) shall be cut to lengths less than **<number>** feet and decked in designated log deck location.

Merchantable timber not associated with an existing timber sale shall be cut to length meeting the Utilization Standards described in Subsection 201.04(c).



Deck logs so that logs are piled parallel to one another; can be removed by standard log loading equipment; will not damage standing trees; will not interfere with drainage, and will not roll. Keep logs in log decks free of brush and soil.

**(j) Removal to designated locations.** Remove construction slash to designated locations.

**(k) Piling.** Pile construction slash in designated areas. Place and construct piles so that if the piles are burned, the burning will not damage remaining trees. Keep piles free of dirt from stumps.

## 204 - Excavation and Embankment

204.00\_National\_11\_4\_2016

Delete Section 204 in its entirety and replace with the following.

Section 204. — EXCAVATION AND EMBANKMENT

### Description

**204.01** This work consists of excavating material and constructing embankments. This work also includes furnishing, hauling, stockpiling, placing, disposing, sloping, shaping, compacting, and finishing earthen and rocky material.

**204.02 Definitions.**

**(a) Excavation.** Excavation consists of the following:

**(1) Roadway excavation.** Material excavated from within the right-of-way or easement areas, except subexcavation covered in Subsection 204.02(a)(2) and structure excavation covered in Sections 208 and 209. Roadway excavation includes all material encountered regardless of its nature or characteristics.

**(2) Subexcavation.** Material excavated from below subgrade elevation in cut sections or from below the original ground-line in embankment sections. Subexcavation excludes the work required by Subsection 204.05 or 204.06.

**(3) Borrow excavation.** Material used for embankment construction that is obtained from outside the roadway prism. Borrow excavation includes unclassified borrow, and topping.

**(b) Embankment construction.** Embankment construction consists of placing and compacting roadway or borrow excavation. This work includes:

**(1)** Preparing foundation for embankment;

**(2)** Constructing roadway embankments;

**(3)** Benching for side-hill embankments;

**(4)** Constructing dikes, ramps, mounds, and berms; and

**(5)** Backfilling subexcavated areas, holes, pits, and other depressions.

**(c) Conserved topsoil.** Excavated material conserved from the roadway excavation and embankment foundation areas that is suitable for growth of grass, cover crops, or native vegetation.

**(d) Waste.** Excess and unsuitable roadway excavation and subexcavation that cannot be used.

**Material**

**204.03** Conform to the following Subsections:

Topping	704.05
Unclassified borrow	704.06
Water	725.01(c)

**Construction Requirements**

**204.04 Preparation for Roadway Excavation and Embankment Construction.** Clear the area of vegetation and obstructions according to Sections 201 and 203.

Road pioneering, slash disposal, and grubbing of stumps may proceed concurrently with excavation and embankment. Maintain drainage during pioneering operations.

**204.05 Conserved Topsoil.** When designated, conserve topsoil from roadway excavation and embankment foundation areas. Stockpile conserved topsoil in low windrows immediately beyond the rounding limits of cut and embankment slopes or in other approved locations. Separate conserved topsoil from other excavated material. When designated, place conserved topsoil on completed slopes according to Section 624.

**204.06 Roadway Excavation.** Excavate as follows:

**(a) Rock cuts.** Blast rock according to Section 205. Excavate rock cuts to 6 inches (150 millimeters) below subgrade within the roadbed limits. Backfill to subgrade with topping or other suitable material. Compact the material according to Subsection 204.11.

**(b) Earth cuts.** Scarify earth cuts to 6 inches (150 millimeters) below subgrade within the roadbed limits. Compact the scarified material according to Subsection 204.11.

**(c) Pioneer Roads.** Conduct excavation and placement operations so material to be treated under Section 201 will not be incorporated into the roadway unless specified in the slash treatment method. Maintain drainage during pioneering operations.

Remove snow and ice in advance of the work and deposit beyond the roadway limits in a manner that will not waste material or generate sediment. Do not incorporate snow and ice into embankments. Place snow or ice in a manner to prevent resource damage.

**(d) Drainage Feature.** Drainage feature includes construction of all ditches, minor channel changes, drainage dips, catch basins, surface water deflectors, and other minor drainage structures. Compact the material according to Subsection 204.11. Excavate on a uniform grade between control points.

Do not disturb material and vegetation outside the construction limits. Retrieve material deposited outside the construction limits. Dispose of unsuitable or excess excavation material according to Subsection 204.14. Replace shortage of suitable material caused by premature disposal of roadway excavation.

Shape to drain and compact the work area to a uniform cross-section at the end of each day's operations.

**204.07 Subexcavation.** Excavate material to the required limits. Dispose of unsuitable material according to Subsection 204.14. Take cross-sections according to Section 152. Backfill subexcavated area with suitable material in horizontal layers not exceeding 12 inches (300 millimeters) in compacted thickness and compact according to Subsection 204.11. Prevent unsuitable material from mixing with suitable backfill material.

**204.08 Borrow Excavation.** Use suitable roadway excavation in embankment construction. Do not use borrow excavation when it results in excess roadway excavation. Deduct excess borrow excavation from the total borrow excavation quantity.

Obtain borrow source approval according to Subsection 105.02. Develop and restore borrow sources according to Subsections 105.03 and 105.06. Do not excavate beyond the established limits. When applicable, shape the borrow source to permit accurate measurements when excavation is complete.

**204.09 Preparing Foundation for Embankment Construction.** Prepare foundation for embankment construction as follows:

**(a) Embankment over natural ground.** Remove topsoil and break up the ground surface to a minimum depth of 6 inches (150 millimeters) by plowing or scarifying. Compact the ground surface according to Subsection 204.11.

**(b) Embankments over an existing asphalt, concrete, or gravel road surface.** Scarify gravel roads to a minimum depth of 6 inches (150 millimeters). Scarify or pulverize asphalt and concrete roads to 6 inches (150 millimeters) below the pavement. Reduce particles to a maximum size of 6 inches (150 millimeters) and produce a uniform material. Compact the surface according to Subsection 204.11.

**(c) Embankment across ground not capable of supporting equipment.** Dump successive loads of embankment material in a uniformly distributed layer to construct the lower portion of the embankment. Limit the layer thickness to the minimum depth necessary to support the equipment.

**(d) Embankment on an existing slope steeper than 1V:3H.** Cut horizontal steps in the existing slope to a sufficient width to accommodate placement and compaction operations and equipment. Step the slope as the embankment is placed and compacted in layers. Begin each step at the intersection of the original ground and the vertical cut of the previous step.

**204.10 Embankment Construction.** Incorporate only suitable roadway excavation material into the embankment. When the supply of suitable roadway excavation is exhausted, furnish unclassified borrow to complete the embankment. Obtain written approval before beginning construction of embankments over 6 feet (2 meters) high at subgrade centerline. Construct embankments as follows:

**(a) General.** At the end of each day's operations, shape to drain and compact the embankment surface to a uniform cross-section. Eliminate ruts and low spots that could hold water.

During all stages of construction, route and distribute hauling and leveling equipment over the width and length of each layer of material.

Compact embankment side slopes with a tamping foot roller, by walking with a dozer, or by over-building the fill and then removing excess material to the final slope line. For slopes 1V:1¾H or steeper, compact the slopes as embankment construction progresses.

**(b) Embankment within the roadway prism.** Place embankment material in horizontal layers not exceeding 12 inches (300 millimeters) in compacted thickness. Incorporate oversize boulders or rock fragments into the

12-inch (300-millimeter) layers by reducing them in size or placing them individually as required below. Compact each layer according to Subsection 204.11 before placing the next layer.

Material composed predominately of boulders or rock fragments too large for 12-inch (300-millimeter) layers may be placed in layers up to 24 inches (600 millimeters) thick. Incorporate oversize boulders or rock fragments into the 24-inch (600-millimeter) layer by reducing them in size or placing individual rock fragments and boulders greater than 24 inches (600 millimeters) in diameter as follows:

- (1) Reduce rock to less than 48 inches (1200 millimeters) in the largest dimension;
- (2) Distribute rock within the embankment to prevent nesting;
- (3) Place layers of embankment material around each rock to a depth not greater than that permitted above. Fill voids between rocks; and
- (4) Compact each layer according to Subsection 204.11(a) before placing the next layer.

**(c) Embankment outside of roadway prism.** When placing embankment outside the staked roadway prism, place material in horizontal layers not exceeding 24 inches (600 millimeters) in compacted thickness. Compact each layer according to Subsection 204.11.

**204.11 Compaction.** Compact the embankment using one of the following methods as specified.

**(a) Placement Method 1.** Use AASHTO T 27 to determine the quantity of material retained on a No. 4 (4.75-millimeter) sieve. Compact as follows:

**(1) More than 80 percent retained on a No. 4 (4.75-millimeter) sieve.** Adjust the moisture content to a level suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Use compression-type rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Compact each layer of material full width with one of the following and until there is no visible evidence of further consolidation:

- (a) Four roller passes of a vibratory roller having a minimum dynamic force of 40,000 pounds (180 kilonewtons) impact per vibration and a minimum frequency of 1000 vibrations per minute;
- (b) Eight roller passes of a 20-ton (20-metric ton) compression-type roller; or
- (c) Eight roller passes of a vibratory roller having a minimum dynamic force of 30,000 pounds (130 kilonewtons) impact per vibration and a minimum frequency of 1000 vibrations per minute.

Increase the compactive effort for layers deeper than 12 inches (300 millimeters) as follows:

- For each additional 6 inches (150 millimeters) or fraction thereof, increase the number of roller passes in Subsection 204.11(a)(1)(a), by four passes; or
- For each additional 6 inches (150 millimeters) or fraction thereof, increase the number of roller passes in Subsection 204.11(a)(1)(b) and (c), by eight passes.

**(2) 50 to 80 percent retained on a No. 4 (4.75-millimeter) sieve.** Classify the material according to AASHTO M 145. Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content. Use AASHTO T 99 to determine the optimum moisture content of the portion of the material passing a No. 4 (4.75-millimeter) sieve. Multiply this number by the percentage of

material passing a No. 4 (4.75-millimeter) sieve, and add 2 percent to determine the optimum moisture content of the material.

Use nonvibratory rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Compact each layer of material full width according to Subsection 204.11(a)(1).

**(3) Less than 50 percent retained on a No. 4 (4.75-millimeter) sieve.** Classify the material according to AASHTO M 145. For material classified A-1 or A-2-4, determine the maximum density according to AASHTO T 99, Method C.

Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content.

Use compression-type or vibratory rollers. Compact each layer of material full width to at least 95 percent of the maximum density. Determine the in-place density and moisture content according to AASHTO T 310 or other approved test procedures. When required, use AASHTO T 224 to correct for coarse particles.

**(b) Placement Method 2.** Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate roller compaction equipment over the full width of each layer until there is no visible evidence of further consolidation or, if when a sheepsfoot roller is used, the roller “walks out” of the layer. Make at least three complete passes. Use compression-type rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Ensure rollers meet the following requirements:

**(1)** Steel wheeled rollers, other than vibratory, capable of exerting a force of not less than 250 pounds per inch (4.5 kilogram/millimeter) of width of the compression roll or rolls.

**(2)** Vibratory steel wheeled rollers equipped with amplitude and frequency controls with a minimum dynamic force of 30,000 pounds (130 kilonewtons) impact per vibration, specifically designed to compact the material on which it is used.

**(3)** Pneumatic-tired rollers with smooth tread tires of equal size that will provide a uniform compacting pressure for the full width of the roller and capable of exerting a ground pressure of at least 80 psi (550 Kilopascals).

**(4)** Sheepsfoot, tamping, or grid rollers capable of exerting a force of 250 pounds per inch (4.5 kilogram/millimeter) of width of roller drum.

**(c) Placement Method 3.** Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer until there is no visible evidence of further consolidation. Make at least three complete passes.

**(d) Placement Method 4.** Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer.

**(e) Placement Method 5.** Adjust the moisture content of the material to a moisture content suitable for compaction. Compact the complete surface with a bucket of an excavator larger than 39,000 pounds (18

metric ton) Gross Vehicle Weight using a minimum of three blows. Overlap compaction by  $\frac{1}{2}$  width of bucket.

**(f) Placement Method 6.** Adjust the moisture content of the material to a moisture content suitable for compaction. Compact using an approved mechanical tamper for a minimum of three complete passes.

When compacting with rollers or hauling and spreading equipment is not practical, use approved mechanical tampers for a minimum of three complete passes.

**204.12 Drainage Features.** Slope, grade, and shape all drainage features. Remove projecting roots, stumps, rock, or similar matter. Maintain all drainage features in an open condition and without sticks, and other debris.

Form furrow ditches by plowing or using other acceptable methods to produce a continuous furrow. Place excavated material on the downhill side so the bottom of the ditch is approximately 18 inches (450 millimeters) below the crest of the loose material. Clean the ditch using a hand shovel or other suitable method. Shape to provide drainage without overflow.

**204.13 Sloping, Shaping, and Finishing.** Complete subgrade, slopes, drainage features, culverts, riprap, and other underground minor structures before placing aggregate courses. Slope, shape, and finish to the designated tolerance class as defined in Table 204-2 as follows:

**(a) Sloping.** Leave earth slopes with uniform roughened surfaces, except as described in Subsection 204.13(b), with no noticeable break as viewed from the road. Except in solid rock, round tops and bottoms of slopes including the slopes of drainage ditches. Round material overlaying solid rock to the extent practical. Scale rock slopes. Slope rounding is not required on tolerance class D through M roads.

If a slide or slipout occurs on a cut or embankment slope, remove or replace the material and repair or restore damage to the work. Bench or key the slope to stabilize the slide. Reshape the cut or embankment slope to an acceptable condition.

**(b) Stepped slopes.** Where required, construct steps on slopes of  $1\frac{1}{2}V:1H$  to  $1V:2H$ . Construct the steps approximately 18 inches (450 millimeters) high. Blend the steps into natural ground at the end of the cut. If the slope contains non-rippable rock outcrops, blend steps into the rock. Remove loose material found in transitional area. Except for removing large rocks that may fall, scaling stepped slopes is not required.

**(c) Shaping.** Shape the subgrade to a smooth surface and to the cross-section required. Shape slopes to gradually transition into slope adjustments without noticeable breaks. At the ends of cuts and at intersections of cuts and embankments, adjust slopes in the horizontal and vertical planes to blend into each other or into the natural ground.

**(d) Finishing.** Ensure that the subgrade is visibly moist during shaping and dressing; smooth and uniform, and shaped to conform to the typical sections. Remove material larger than 6 inches (150 millimeters) from the top 6 inches (150 millimeters) of the roadbed. Remove unsuitable material from the roadbed, and replace it with suitable material. Scarify to 6 inches (150 millimeters) below the bottom of low sections, holes, cracks, or depressions and bring back to grade with suitable material.

Maintain proper ditch drainage.

**204.14 Disposal of Unsuitable or Excess Material.** Dispose of unsuitable or excess material at designated sites or according to Subsection 203.05(a)

When there is a pay item for waste, shape and compact the waste material in its final location. Do not mix clearing or other material not subject to payment with the waste material.

**204.15 Acceptance.** See Table 204-1 for sampling, testing, and acceptance requirements.

Material for embankment and conserved topsoil will be evaluated under Subsections 106.02 and 106.04.

Excavation and embankment construction will be evaluated under Subsections 106.02 and 106.04.

Subexcavation will be evaluated under Subsections 106.02 and 106.04.

### **Measurement**

**204.16** Measure the Section 204 pay items listed in the bid schedule according to Subsection 109.02 and the following as applicable:

**(a) Roadway excavation.** Measure roadway excavation in its original position as follows:

**(1)** Include the following volumes in roadway excavation:

- (a) Roadway prism excavation;
- (b) Rock material excavated and removed from below subgrade in cut sections;
- (c) Unsuitable material below subgrade and unsuitable material beneath embankment areas when a pay item for subexcavation is not listed in the bid schedule;
- (d) Ditches, except furrow ditches measured under a separate pay item;
- (e) Conserved topsoil;
- (f) Borrow material used in the work when a pay item for borrow is not listed in the bid schedule;
- (g) Loose scattered rocks removed and placed as required within the roadway;
- (h) Conserved material taken from pre-existing stockpiles and used in Section 204 work, except topsoil measured under 624; and
- (i) Slide and slipout material not attributable to the Contractor's method of operation.

**(2)** Do not include the following in roadway excavation:

- (a) Overburden and other spoil material from borrow sources;
- (b) Overbreakage from the backslope in rock excavation;
- (c) Water or other liquid material;
- (d) Material used for purposes other than required;
- (e) Roadbed material scarified in place and not removed;
- (f) Material excavated when stepping cut slopes;
- (g) Material excavated when rounding cut slopes;
- (h) Preparing foundations for embankment construction;

- (i) Material excavated when benching for embankments;
- (j) Slide or slipout material attributable to the Contractor's method of operation;
- (k) Conserved material taken from stockpiles constructed at the option of the Contractor;
- (l) Material excavated outside the established slope limits; and
- (m) Road pioneering for the convenience of the Contractor.

**(3)** When both roadway excavation and embankment construction pay items are listed in the bid schedule, measure roadway excavation only for the following:

- (a) Unsuitable material below subgrade in cuts and unsuitable material beneath embankment areas when a pay item for subexcavation is not listed in the bid schedule;
- (b) Slide and slipout material not attributable to the Contractor's method of operations; and
- (c) Drainage ditches, channel changes, and diversion ditches.

**(b) Unclassified borrow, and topping.** When measuring by the cubic yard (cubic meter) measure in its original position. If borrow excavation is measured by the cubic yard (cubic meter) in-place, take initial cross-sections of the ground surface after stripping overburden. Upon completion of excavation and after the borrow source waste material is returned to the source, retake cross-sections before replacing the overburden. Do not measure borrow excavation until suitable roadway excavation is depleted.

**(c) Embankment construction.** Measure embankment construction in its final position. Do not make deductions from the embankment construction quantity for the volume of minor structures.

**(1)** Include the following volumes in embankment construction:

- (a) Roadway embankments;
- (b) Material used to backfill subexcavated areas, holes, pits, and other depressions;
- (c) Material used to restore obliterated roadbeds to original contours; and
- (d) Material used for dikes, ramps, mounds, and berms.

**(2)** Do not include the following in embankment construction:

- (a) Preparing foundations for embankment construction;
- (b) Adjustments for subsidence or settlement of the embankment or of the foundation on which the embankment is placed; and
- (c) Material used to round fill slopes.

**(d) Rounding cut slopes.** If a pay item for slope rounding is included in the bid schedule measure rounding cut slopes horizontally along the centerline of the roadway. If a pay item is not included for slope rounding is not included in the bid schedule payment will be considered indirect to roadway excavation.

**(e) Waste.** Measure waste by the cubic yard (cubic meter) in its final position. Take initial cross-sections of the ground surface after stripping over-burden. Upon completion of the waste placement, retake cross-sections before replacing overburden.



**(f) Slope scaling.** Measure slope scaling by the cubic yard (cubic meter) in the hauling vehicle.

**(g) Subexcavation.** Measure subexcavation by the cubic yard (cubic meter) in its original position.

**(h) Drainage features.** Measurement includes all excavation, embankment, shaping, and grading necessary for a completed drainage feature.

### **Payment**

**204.17** The accepted quantities will be paid at the contract price per unit of measurement for the Section 204 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

**Table 204-1  
Sampling, Testing, and Acceptance Requirements**

<b>Material or Product (Subsection)</b>	<b>Type of Acceptance (Subsection)</b>	<b>Characteristic</b>	<b>Category</b>	<b>Test Methods Specifications</b>	<b>Sampling Frequency</b>	<b>Point of Sampling</b>	<b>Split Sample</b>	<b>Reporting Time</b>
<b>Source</b>								
Topping (704.05)	Measured and tested for conformance (106.04 & 105)	Classification <sup>(1)</sup>	–	AASHTO M 145	1 per soil type and source of material	Processed material	Yes	Before using in work
Unclassified borrow (704.06)	"	"	–	"	"	"	"	"
<b>Production</b>								
Topping (704.05) and (204.11(a))	Measured and tested for conformance (106.04)	Moisture-density	–	T 99, Method C <sup>(2)</sup>	1 per soil type, but not less than 1 per each 13,000 yd <sup>3</sup> (10,000 m <sup>3</sup> )	Processed material	Yes	Before using in work
		Density	–	AASHTO T 310 or other approved procedures	1 per 3500 yd <sup>2</sup> (3000 m <sup>2</sup> ), but not less than 3 per layer	In-place	No	Before placement of next layer
Unclassified borrow (704.06) and (204.11(a))	"	Moisture-density	–	T 99, Method C <sup>(2)</sup>	1 per soil type, but not less than 1 per each 13,000 yd <sup>3</sup> (10,000 m <sup>3</sup> )	Processed material	Yes	Before using in work
		Density	–	AASHTO T 310 or other approved procedures	1 per 3500 yd <sup>2</sup> (3000 m <sup>2</sup> ), but not less than 3 per layer	In-place	No	Before placement of next layer

**Table 204-1  
Sampling, Testing, and Acceptance Requirements**

<b>Material or Product (Subsection)</b>	<b>Type of Acceptance (Subsection)</b>	<b>Characteristic</b>	<b>Category</b>	<b>Test Methods Specifications</b>	<b>Sampling Frequency</b>	<b>Point of Sampling</b>	<b>Split Sample</b>	<b>Reporting Time</b>
<b>Production (continued)</b>								
Earth embankment (204.11(a))	Measured and tested for conformance (106.04)	Classification	-	AASHTO M 145	1 per soil type	Source of material	Yes	Before using in work
		Moisture-density	-	T 99, Method C <sup>(2)</sup>	1 per soil type, but not less than 1 per each 13,000 yd <sup>3</sup> (10,000 m <sup>3</sup> )	"	"	"
		Density	-	AASHTO T 310 or other approved procedures	1 per 3500 yd <sup>2</sup> (3000 m <sup>2</sup> ), but not less than 3 per layer	In-place	No	Before placement of next layer
Top of subgrade (204.11(a))	"	Density	-	AASHTO T 310 or other approved procedures	1 per 2500 yd <sup>2</sup> (2000 m <sup>2</sup> ), but not less than 3 per layer	In-place	No	Before placement of next layer
<b>Finished Product</b>								
Roadbed (204.13)	Measured and tested for conformance (106.04)	Final line & grade	-	Field measured	Determined by the CO	Determined by the CO	No	Before placement of next layer

(1) Not required when using Government-provided source.

(2) Minimum 5 points per proctor.

<b>Table 204-2 Construction Tolerances</b>													
<b>Location Description</b>	<b>Tolerance Class (a)</b>												
	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 <sup>(b)</sup> )	±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.

## 207 - Earthwork Geotextiles

Delete third sentence of Subsection 207.04 and replace with the following:

207.04(c)(1) First layer placement and compaction.

Spread the end-dump pile of cover material maintaining <number> inch(es) lift over the geosynthetic.

## 209 - Structure Excavation and Backfill

209.09 Backfill.

Add the following paragraphs:

### (a) General.

Backfill without damaging or displacing the culvert or structural plate structure. Replace any pipe that is distorted by more than 5 percent of nominal dimensions, or that is ruptured or broken.

### (b) Pipe culverts.

Do not place or backfill pipe that meets any of the following conditions until the excavation and foundation have been approved in writing by the CO:

- (1) Embankment height greater than 6 feet at subgrade centerline.
- (2) Installation in a protected streamcourse.
- (3) Round pipe with a diameter of 48 inches or greater.
- (4) Pipe arches with a span of 50 inches or greater.
- (5) Any box culvert or structure other than pipe culverts.

Delete Subsection 209.10 and replace with the following:

209.10 Compacting.

Compact the embankment using one of the following methods as specified.

**(a) Compaction Method 1.** Use AASHTO T 27 to determine the quantity of material retained on a No. 4 (4.75-millimeter) sieve. Compact as follows:

**(1) More than 80 percent retained on a No. 4 (4.75-millimeter) sieve.** Adjust the moisture content to a level suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Use compression-type rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Compact each layer of material full width with one of the following and until there is no visible evidence of further consolidation:

- (a)** Four roller passes of a vibratory roller having a minimum dynamic force of 40,000 pounds (180 kilonewtons) impact per vibration and a minimum frequency of 1000 vibrations per minute;
- (b)** Eight roller passes of a 20-ton (20-metric ton) compression-type roller; or

(c) Eight roller passes of a vibratory roller having a minimum dynamic force of 30,000 pounds (130 kilonewtons) impact per vibration and a minimum frequency of 1000 vibrations per minute.

Increase the compactive effort for layers deeper than 12 inches (300 millimeters) as follows:

- For each additional 6 inches (150 millimeters) or fraction thereof, increase the number of roller passes in Subsection 209.10(a)(1)(a), by four passes; or
- For each additional 6 inches (150 millimeters) or fraction thereof, increase the number of roller passes in Subsection 209.10(a)(1)(b) and (c), by eight passes.

**(2) 50 to 80 percent retained on a No. 4 (4.75-millimeter) sieve.** Classify the material according to AASHTO M 145. Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content. Use AASHTO T 99 to determine the optimum moisture content of the portion of the material passing a No. 4 (4.75-millimeter) sieve. Multiply this number by the percentage of material passing a No. 4 (4.75-millimeter) sieve, and add 2 percent to determine the optimum moisture content of the material.

Use nonvibratory rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Compact each layer of material full width according to Subsection 209.10(a)(1).

**(3) Less than 50 percent retained on a No. 4 (4.75-millimeter) sieve.** Classify the material according to AASHTO M 145. For material classified A-1 or A-2-4, determine the maximum density according to AASHTO T 99, Method C..

Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content.

Use compression-type or vibratory rollers. Compact each layer of material full width to at least 95 percent of the maximum density. Determine the in-place density and moisture content according to AASHTO T 310 or other approved test procedures. When required, use AASHTO T 224 to correct for coarse particles.

**(b) Compaction Method 2.** Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate roller compaction equipment over the full width of each layer until there is no visible evidence of further consolidation or, if when a sheepsfoot roller is used, the roller “walks out” of the layer. Make at least three complete passes. Use compression-type rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Ensure rollers meet the following requirements:

- (1) Steel wheeled rollers, other than vibratory, capable of exerting a force of not less than 250 pounds per inch (4.5 kilogram/millimeter) of width of the compression roll or rolls.
  - (2) Vibratory steel wheeled rollers equipped with amplitude and frequency controls with a minimum dynamic force of 30,000 pounds (130 kilonewtons) impact per vibration, specifically designed to compact the material on which it is used.
  - (3) Pneumatic-tired rollers with smooth tread tires of equal size that will provide a uniform compacting pressure for the full width of the roller and capable of exerting a ground pressure of at least 80 psi (550 Kilopascals).
  - (4) Sheepsfoot, tamping, or grid rollers capable of exerting a force of 250 pounds per inch (4.5 kilogram/millimeter) of width of roller drum.
- (c) **Compaction Method 3.** Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer until there is no visible evidence of further consolidation. Make at least three complete passes.
- (d) **Compaction Method 4.** Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer.
- (e) **Compaction Method 5.** Adjust the moisture content of the material to a moisture content suitable for compaction. Compact the complete surface with a bucket of an excavator larger than 39,000 pounds (18 metric ton) Gross Vehicle Weight using a minimum of three blows. Overlap compaction by  $\frac{1}{2}$  width of bucket.
- (f) **Compaction Method 6.** Adjust the moisture content of the material to a moisture content suitable for compaction. Compact using an approved mechanical tamper for a minimum of three complete passes.

When compacting with rollers or hauling and spreading equipment is not practical, use approved mechanical tampers for a minimum of three complete passes.

## 249 – Composite Road Construction

### 249.01 Description

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.

### 249.02 Clearing and 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.

### 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

## 301 - Untreated Aggregate Courses

Add the following to Subsection 301.03:

### 301.03 General.

Written approval of the roadbed is required before placing aggregate.

For pit run or grid-rolled material, furnish material smaller than the maximum size, no gradation will be required otherwise. After processing on the road, remove all oversize material from the road and dispose as directed by the CO.

Provide additives or binder, if required, at the proportions specified.

Develop and use Government furnished sources according to Section 105.

If the aggregate is produced and stockpiled before placement, handle and stockpile according to Section 314.

Delete Subsection 301.05 and replace with the following:

### 301.05 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:

- (a) **Compaction A.** Operating spreading and hauling equipment over the full width of the travelway.
- (b) **Compaction B.** Operate rollers and compact as specified in Subsection 204.11(a)(1).
- (c) **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).
- (d) **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.
- (e) **Compaction E.** Compact to a density of at least 95 per-cent of the maximum density, as determined by AASHTO T 180, method C or D.

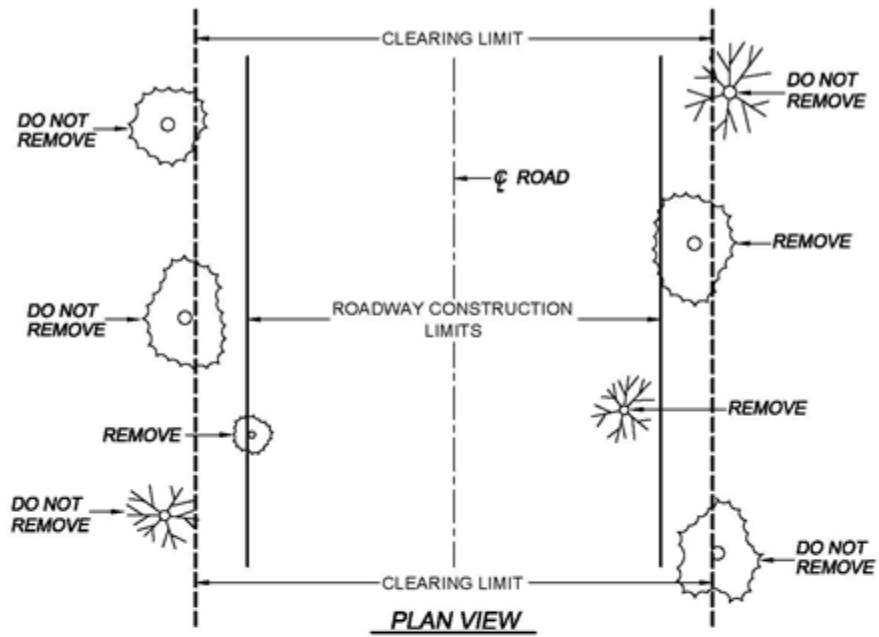
For all compaction methods, blade the surface of each layer during the compaction operations to remove irregularities and produce a smooth, even surface. When a density requirement is specified, determine the in place density and moisture content according to AASHTO T 310 or other approved test procedures.

## 602 - Culverts and Drains

Add the following to Subsection 602.05.

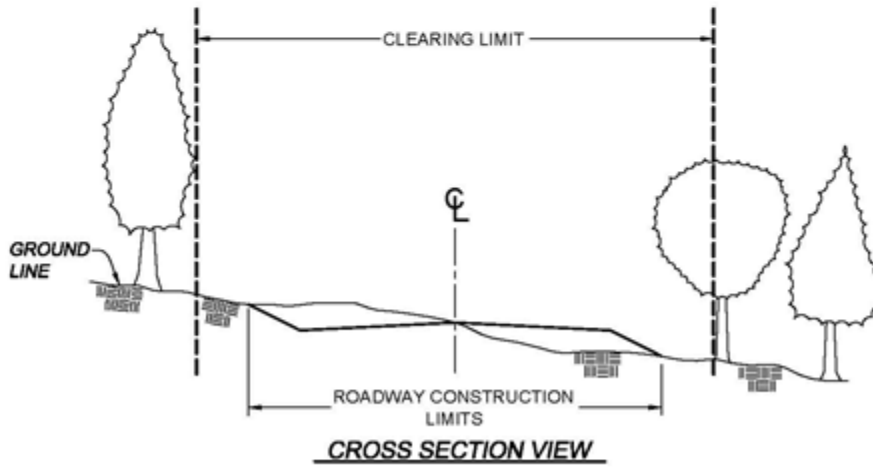
### 602.05 Laying Metal Pipe.

- (c) **Standard Connecting bands.** Band corrugation shall match that of the pipe sections being joined or the annular rerolled ends of those pipe sections.

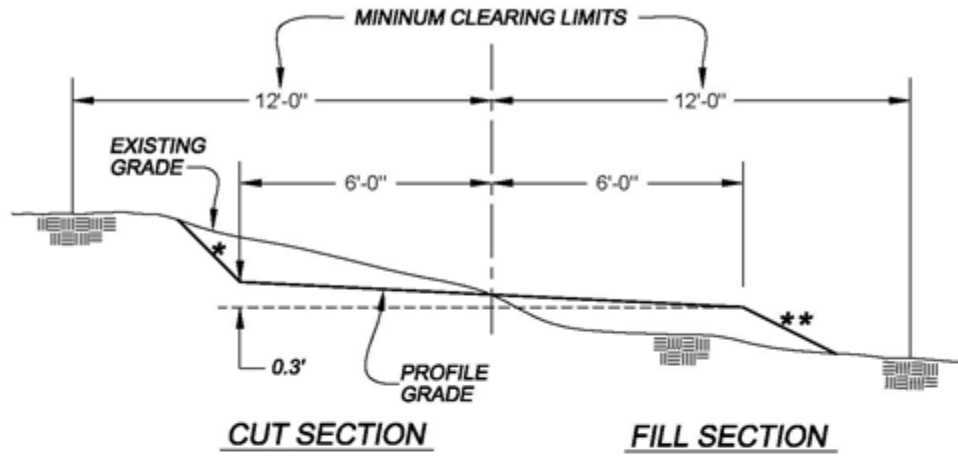


NOTE: TREES ON THE CLEARING LIMIT LINE ARE TO REMAIN UNLESS OTHERWISE DESIGNATED BY THE ENGINEER.

NOTE: YELLOW PAINT INDICATES TREES TO BE REMOVED.



**CONSTRUCTION STAKING**  
NOT TO SCALE

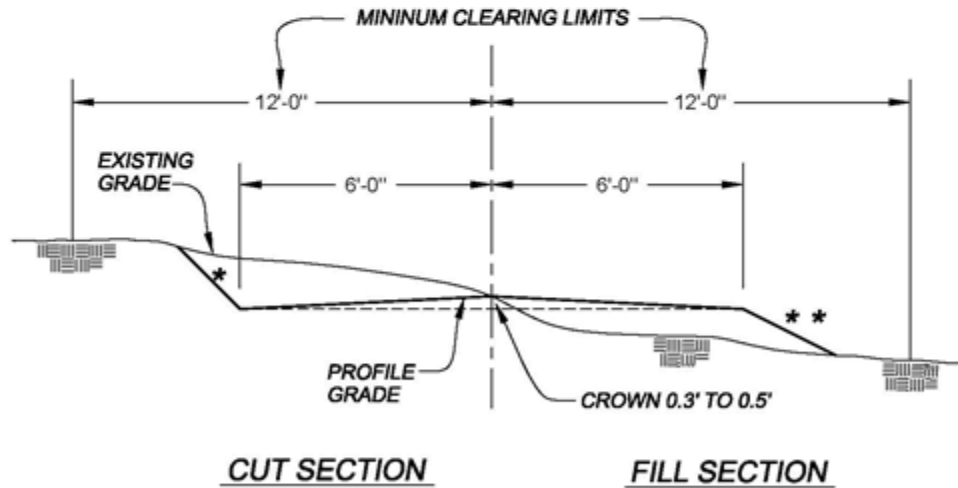


**TYPICAL OUTSLOPE DETAIL**

NOT TO SCALE

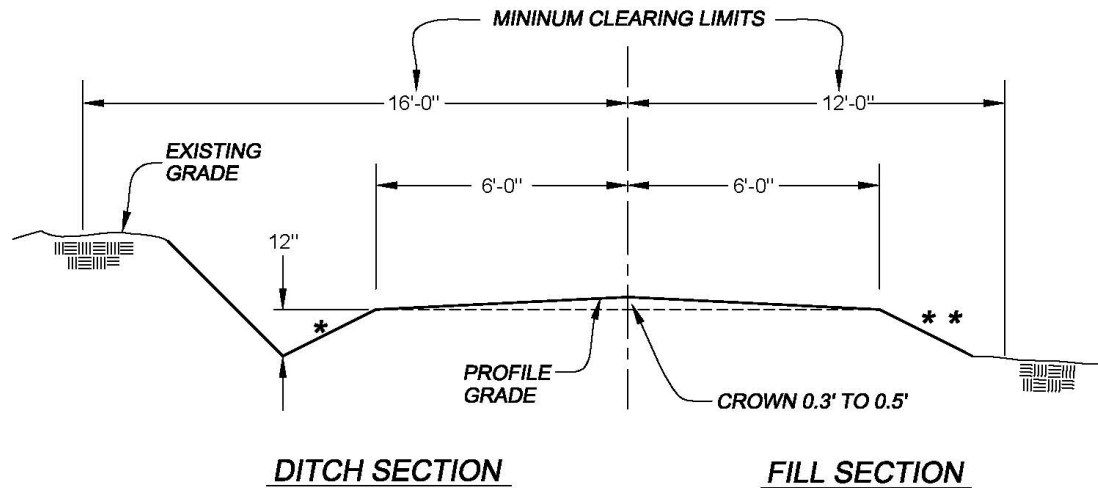
\*BACKSLOPE AND DITCH SLOPES MAY VARY FROM 1H:1V TO 2H:1V WHEN CUTS ARE UNDER 2 FT. CUTS OVER 2 FT. SHALL HAVE SLOPES OF 2H:1V

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



**TYPICAL CROSS SECTION CROWN NO DITCHES**

NOT TO SCALE

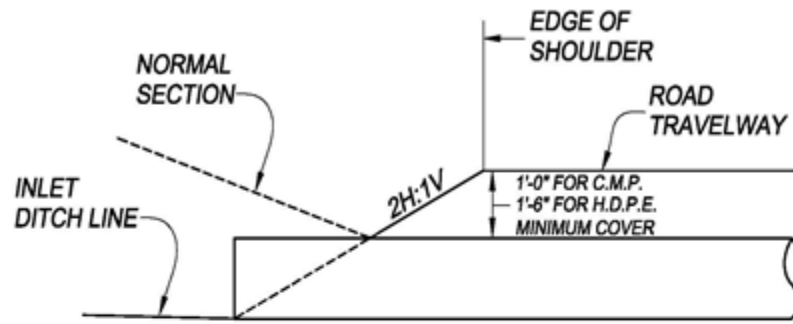


\*BACKSLOPE AND DITCH SLOPES MAY VARY FROM 1H:1V TO 2H:1V WHEN CUTS ARE UNDER 2 FT. CUTS OVER 2 FT. SHALL HAVE SLOPES OF 2H:1V

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

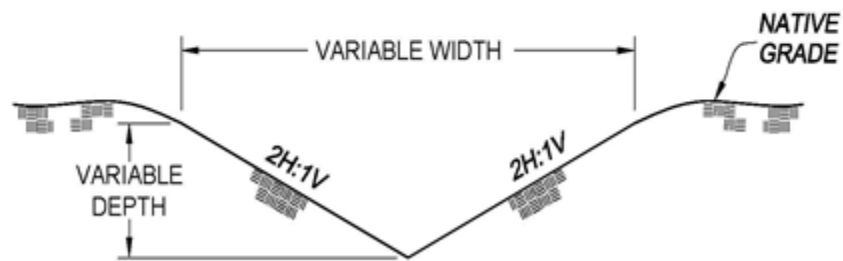
(SEE NARRATIVE FOR LOCATION)

**TYPICAL CROSS SECTION WITH 1 FOOT DITCH**  
**NOT TO SCALE**



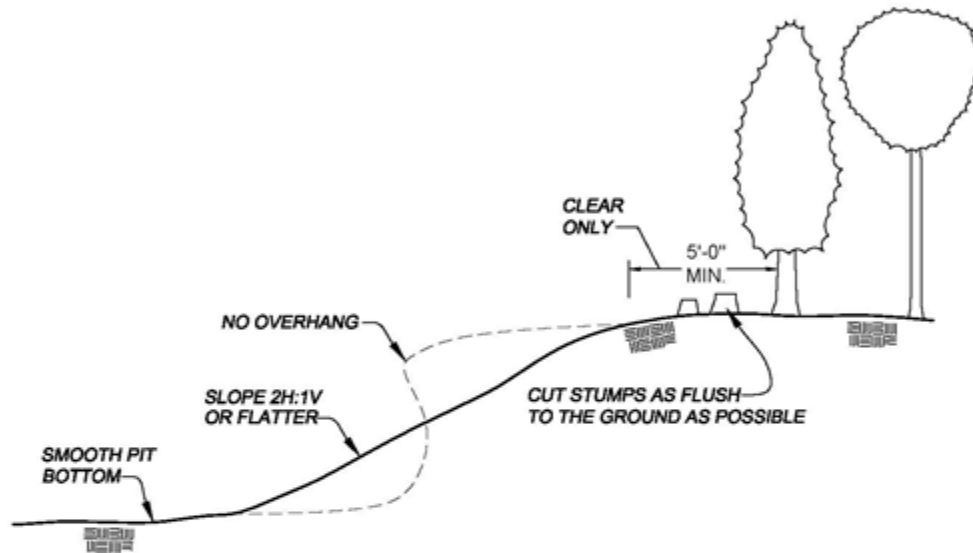
**TYPICAL DITCH SECTION AT CULVERT INLET**

NOT TO SCALE



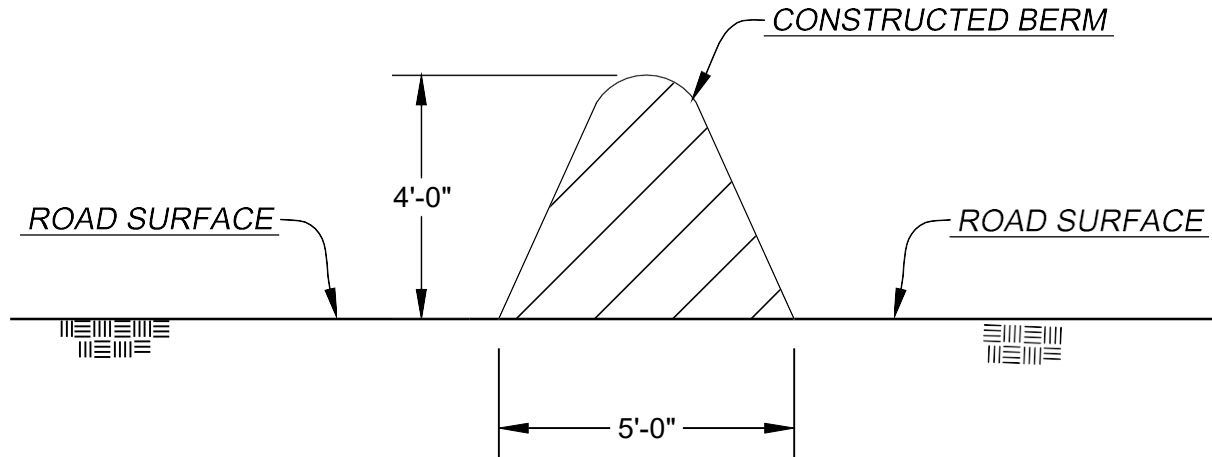
**TYPICAL INLET AND OUTLET DITCH SECTION**

NOT TO SCALE



**NOTE: TOPS, STUMPS AND TRUNKS SHALL BE DISPOSED OF AS DIRECTED BY THE ENGINEER. STUMPS SHALL BE SEVERED FROM ALL TREES. ALL TIMBER SHALL REMAIN PROPERTY OF THE GOVERNMENT. OVERSIZED ROCK SHALL BE DISPOSED OF IN EXISTING PILES OR AS DIRECTED BY THE ENGINEER. SMOOTH PIT BOTTOM TO REDUCE THE COLLECTION OF WATER. HAUL ROADS SHALL BE MADE SMOOTH AND REPAIRED OF DAMAGE CAUSED BY THE CONTRACTORS HAULING OPERATION OR EQUIPMENT.**

**BORROW PIT CLEAN UP**



NOTE:

BERM TO BE CONSTRUCTED AFTER SALE IS COMPLETED WITH ROCKS/BOULDERS, LOGGING SLASH, CULL LOGS, STUMPS AND EARTH. AS SHOWN IN ABOVE DRAWING, DO NOT DIG DITCHES ON EITHER SIDE OF BERM FOR BORROW MATERIAL TO CONSTRUCT BERM.

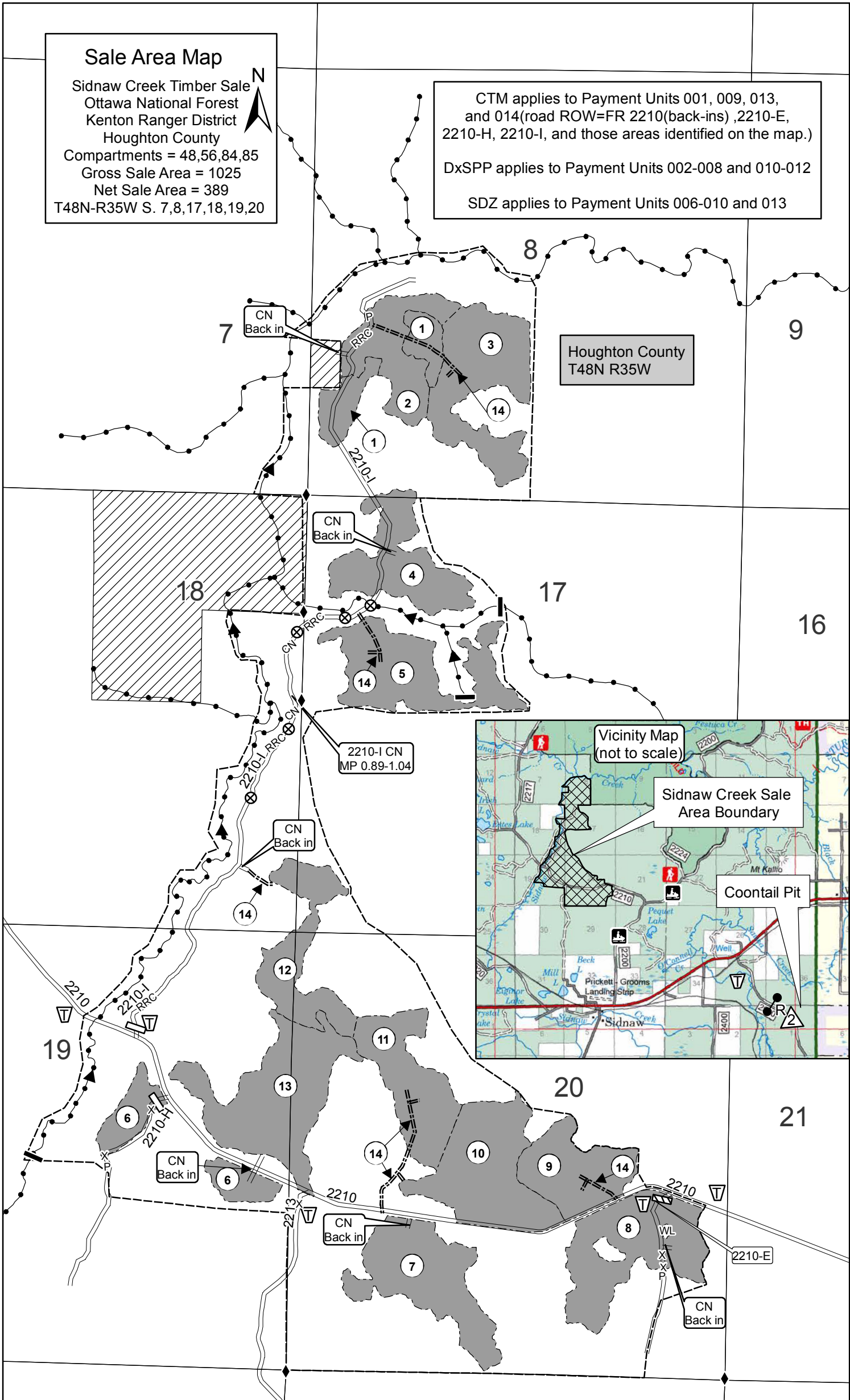
**TYPICAL BERM DETAIL**  
NOT TO SCALE



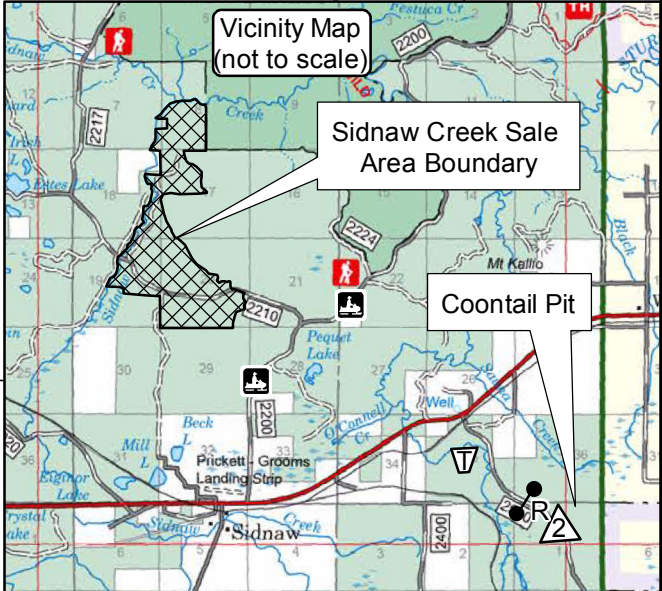
### Sale Area Map

Sidnaw Creek Timber Sale  
 Ottawa National Forest  
 Kenton Ranger District  
 Houghton County  
 Compartments = 48,56,84,85  
 Gross Sale Area = 1025  
 Net Sale Area = 389  
 T48N-R35W S. 7,8,17,18,19,20

CTM applies to Payment Units 001, 009, 013,  
 and 014 (road ROW=FR 2210(back-ins), 2210-E,  
 2210-H, 2210-I, and those areas identified on the map.)  
 DxSPP applies to Payment Units 002-008 and 010-012  
 SDZ applies to Payment Units 006-010 and 013


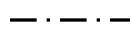

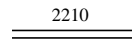
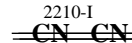
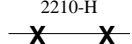
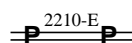
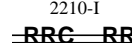
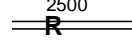
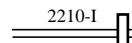
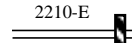

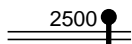
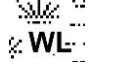

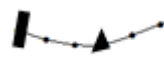






Houghton County  
 T48N R35W



**SALE AREA MAP  
OTTAWA NATIONAL FOREST  
SIDNAW CREEK TIMBER SALE**

**LEGEND**

	Sale Area Boundary, BT1.1
	Payment Unit Boundary, BT1.1
	Payment Unit Number, BT1.1
CTM	Cut Tree Marked Prior to Advertisement, BT2.35, CT2.355#, CT6.412
DxSPP	Designation By Species and Diameter, CT2.352#
	Existing Transportation System Road, BT5.12, BT6.22
	Specified Road Construction (New), AT7, BT5.2, BT5.23, BT6.22, BT6.222, BT6.361
	Existing Transportation System Road, Hauling Prohibited, CT5.12#, BT6.22
	Existing Transportation System Road, Use Prohibited, CT5.12#
	Specified Road Reconstruction, AT7, BT5.2, BT5.23, BT6.22, BT6.222, BT6.361
	Existing Transportation System Road, Use Restricted, CT5.12#
	Purchaser Install Berm on System Road, CT5.31#, T-8620, BT6.22
	Purchaser Remove/Install Berm on System Road, CT5.31#, T-8620, BT6.22
	Specified Road Construction/Reconstruction, AT7, BT5.2, BT5.23, BT6.22, BT6.222, BT6.361 (Culvert installation)
	Existing GATE, BT6.22, CT5.31# (T-8620)
	Wetlands Protection, BT6.62, CT6.62#
	Material Source, Pit-Run and Crushed Gravel, (Coontail Pit T47N-R35W, Section 1); CT5.221# (T8130)
	Streamcourse Protection, BT6.5 (block represents upper stream limit; arrow indicates flow direction)
	Traffic Control Device, BT6.33 (Safety)
	Snowmobile Trail, BT6.22
	Protection of Land Survey Monuments (Monumented Corner), BT6.23
	Other Ownership, CT6.7#