

Sale Name: Pay Streak

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

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R9-CT2.352# – DESIGNATION BY SPECIES AND DIAMETER. (09/2004)

Tree Designation Table

Payment Unit(s) or Cutting Unit(s)	Designated Species ^{1/}	More Than Stump Diameter (inches) ^{2/}	Less Than Stump Diameter (inches) ^{2/}
01	All Species Except Mixed Hardwood, Hemlock, Cedar, White Pine, Red Pine, Oak and Elm. (CT) (LT)	>=6.0"	NA
07	All Species Except Mixed Hardwood, Hemlock, Cedar, White Pine, Red Pine, Oak and Elm. (CT)	>=6.0"	NA
18	All Species. (LT)	>=6.0"	NA
02 & 06	All Species Except Hemlock, Cedar, White Pine, Oak and Elm.	>=6.0"	NA

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CT2.301# - PROTECTED AREAS (06/2009)

Notwithstanding the designations for cutting under standard provisions BT2.31, BT2.33, BT2.34 and BT2.35, trees within the area to be protected in Payment Unit(s) on the southeast side of the intersection of Tandlund Lake Road and FR5442; and adjacent to the northwest portion of Payment Unit 07 shall be left uncut. Boundary trees along the perimeter of Protected Areas have been identified by 3 Orange slashes, and "PA" at eye level (facing away from the Protected Area), and painted at the stump. BOUNDARY TREES ARE NOT TO BE CUT. Sale Area Map indicates, with symbol "PA," units within which Protected Areas are identified on the ground and are to be left uncut.

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

Boundary trees for all harvest units have been designated with Orange 3-slash paint at eye level on exterior boundary trees facing into the Payment Units; Orange 2-slash paint at eye level on interior boundaries on both sides of trees facing into the Payment Units, 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 NA shall be left as leave trees, unless Marked with NA paint. Leave NA trees of the designated cut species, NA inches stump diameter or greater, to avoid leave tree spacing greater than NA 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 NA feet wide with a NA foot spacing. Quantities of trees located in skid trails are not (unless included as designated species in Designation Table) Included Timber under AT2.

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R9-CT2.355# - INDIVIDUAL TREES. (09/2004)

Cut Tree Marking Table

Payment Units	Paint Color
03, 04, 08 & 09	Blue
10(ROW)	Yellow

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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.

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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 Payment Unit 01 Temporary Back-in Spur: 15 CY crushed aggregate, Payment Unit 09 Temporary Back-in Spur: 15 CY crushed aggregate, and Payment Unit 08 Temporary Roadside Linear Landing: 15 CY crushed aggregate and 30 CY pit run gravel inches of as directed by Forest Service on all Temporary Road approaches to surfaced roads for a distance of as directed by Forest Service feet back from the surfaced road. Surfaced roads include those with gravel - FR 5442 and Tandlund Lake Road.

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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.

CT5.12# – USE OF ROADS BY PURCHASER. (6/99)

Restricted Road List

Road Number	Road Name	Termini		Map Legend	Description of Restrictions
		From	To		
5442-A	5442-A	0.00	0.02	U	Unsuitable for Hauling prior to agreed upon Reconstruction.
5442-A	5442-A	0.02	POE	X	Hauling Prohibited. Use for skidding must be approved prior to use.
5442-B	5442-B	0.00	0.56	U	Unsuitable for Hauling prior to agreed upon Reconstruction.
5445	5445	0.73	POE	P	Use Prohibited.
5445-A	5445-A	0.17	POE	X	Hauling Prohibited. Use for skidding must be approved prior to use.
5445-B	5445-B	0.00	0.24	U	Unsuitable for Hauling prior to agreed upon Reconstruction.
5235	North Jaybird Pit Rd	5230	End	R	Gate shall be kept closed when gravel hauling operations are not in progress.

X – Hauling Prohibited includes empty log trucks and all other "on-road" vehicles.

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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 NA, Source II NA, and Source III NA.

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 NA:

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-

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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.

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CT5.221# – MATERIAL SOURCES. (4/04)

Material Source Table

Material	Type of Purchase	Owner(s)	Unit of Measure	Unit Price	Estimated Quantity	Total
Pit Run	N/A	USFS	CY	N/A	456 CY (593 CY Loose)	456 CY

NOTE: Pit restoration (per specifications) in the North Jaybird Pit shall be accomplished no later than the end of each operating season.

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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.

**Pay Streak Timber Sale
Road Maintenance Specifications – CT5.31#**

SECTION 3. ROAD MAINTENANCE REQUIREMENTS SCHEDULE

Contract Road Maintenance Requirements Summary

Road	Termini		Miles	Applicable Prehaul Road Maintenance				
	From	To		T-8130	T-8310	T-8340	T-8360	T-8420
5445	0.00	0.73	0.73	P	P	P	P	P
5445-A	0.00	0.17	0.17	P	P	P	P	P

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

Road	Termini		Miles	Applicable During Haul Road Maintenance					
	From	To		T-8030	T-8130	T-8310	T-8340	T-8360	T-8420
5442-A	0.00	0.02	0.02	P	P ^{1/}	P	P	P	P
5442-B	0.00	0.56	0.56	P	P ^{1/}	P	P	P	P
5445	0.00	0.73	0.73	P	P ^{1/}	P	P	P	P
5445-A	0.00	0.17	0.17	P	P ^{1/}	P	P	P	P
5445-B	0.00	0.24	0.24	P	P ^{1/}	P	P	P	P

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

^{1/} 50 CY Total (65 CY loose) to be spot placed as directed by Forest Service

Road	Termini		Miles	Applicable Post Haul Road Maintenance				
	From	To		T-8310	T-8340	T-8350	T-8360	T-8620
5442-A	0.00	0.02	0.02	P	P	P	P	P
5442-B	0.00	0.56	0.56	P	P	P	P	
5445	0.00	0.73	0.73	P	P	P	P	
5445-A	0.00	0.17	0.17	P	P	P	P	P
5445-B	0.00	0.24	0.24	P	P	P	P	
5235	Gate							P

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

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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:

Within Payment Units 01, 03, 04 & 07 - 09 - Harvest Operations are restricted during the period of 03/16 through 06/30 (due to Soils, Spring Break-Up and Protection of Residual Trees).

Within Payment Units 02, 06 & 18 - Harvest Operations are restricted during the period of 3/16 through 05/15 (due to Soils and Spring Break-Up).

To minimize potential breeding areas for pine beetles; during the period of May 1 through September 30, pine and other conifer material shall be removed from the sale area within 30 days of cutting. All pine and conifer material cut after September 30 shall be removed from the sale area prior to March 16.

Pit restoration (per specifications) in the North Jaybird Pit will be accomplished no later than the end of each operating season.

Prohibited operations/activities:

NA

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.

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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:

All logging slash, equipment, and vehicles are prohibited within these areas. Any slash resulting from the Purchaser's Operations shall be removed immediately or treated 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 ditchflows. 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 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. (See Typical Drawing)

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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:

SDZ - shown on Sale area Map for Payment Units 01 - 04, 06 - 10 & 18: Slash resulting from construction clearing (such as from landings, temporary roads, ROW clearing associated with pre-haul road maintenance requirements listed in CT5.31#), and Specified Road construction, shall be lopped and scattered to lie within 3 feet of the ground. All root wads will be severed from the stem and righted on the ground or otherwise disposed of as directed by the Forest Service, concurrent with operations.

SDZ(1) - shown on the Sale Area Map for Payment Units 01, 09 & 10(ROW): within a strip 25 feet in width, measured from the forested edge of the road along Tandlund Lake Road all slash resulting from the Purchaser's operations shall be removed; within an adjacent strip 25 feet in width, all slash shall be lopped and scattered to lie within 3 feet of the ground, concurrent with operations.

SDZ(2) - shown on Sale Area Map for Payment Units 01 - 04, 06 - 09 & 18: All slash resulting from Purchaser's Operations shall either be 1) left at the stump when severed from the merchantable portion of the stem, 2) delimited in place when bunched with a processor-type equipment prior to skidding/forwarding to a central processing point, or 3) spread back evenly across the payment unit, concurrent with operations.

Slash incorporated into closure berms is NOT included in the above described SDZ, SDZ(1) and SDZ(2) requirements.

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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.

PAY STREAK 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.

PAY STREAK 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 raveling.

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.

**PAY STREAK 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-8420	Cutting Roadway Vegetation
T-8620	Miscellaneous Maintenance

T-8030 Snow Removal

DESCRIPTION

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

PAY STREAK ROAD MAINTENANCE REQUIREMENTS
FS-2400-6T Contracts (06/06)
CT5.31## Special Provisions

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.

**PAY STREAK 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
5445 (MP 0.00 – 0.01)	Crushed Aggregate ^{1/}	As Directed by USFS	15 CY (19.5 CY) ^{2/}	See 3.2 Above
5445 (MP 0.00 – 0.02)	Pit Run Gravel ^{3/}	100'L x 12'W x 8"D	30 CY (39 CY) ^{2/}	See 3.2 Above
5445 (MP 0.23 – 0.27)	Pit Run Gravel ^{3/}	210'L x 12'W x 8"D	62 CY (81 CY) ^{2/}	See 3.2 Above
5445 (MP 0.30 – 0.33)	Pit Run Gravel ^{3/}	100'L x 12'W x 8"D	30 CY (39 CY) ^{2/}	See 3.2 Above
5445-A (MP 0.16 – 0.17)	Pit Run Gravel ^{3/}	As Directed by USFS	30 CY (39 CY) ^{2/}	See 3.2 Above
5442-A, 5442-B, 5445, 5445-A & 5445-B	Pit Run Gravel ^{3/}	As Directed by USFS (During Haul Road Maintenance).	50 CY (65 CY) ^{2/}	See 3.2 Above

^{1/} Furnish, Haul, Place.

^{2/} Quantity of Material in () = Approximate Loose Volume.

^{3/} North Jaybird Pit, as shown on Sale Area Map.

**PAY STREAK ROAD MAINTENANCE REQUIREMENTS
 FS-2400-6T Contracts (06/06)
 CT5.31## Special Provisions**

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**.

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.

PAY STREAK ROAD MAINTENANCE REQUIREMENTS
FS-2400-6T Contracts (06/06)
CT5.31## Special Provisions

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.
- 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.

**PAY STREAK ROAD MAINTENANCE REQUIREMENTS
FS-2400-6T Contracts (06/06)
CT5.31## Special Provisions**

- 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.
- 3.3** Drainage structures located in roadbed through fills and natural watercourses shall be fully functional without obstructions, including inlet and outlet channel within 20 feet of the structure (all structures within termini indicated in CT5.31# Summary Table).
- 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.

**PAY STREAK ROAD MAINTENANCE REQUIREMENTS
FS-2400-6T Contracts (06/06)
CT5.31## Special Provisions**

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 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.
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.

PAY STREAK ROAD MAINTENANCE REQUIREMENTS

FS-2400-6T Contracts (06/06)

CT5.31## Special Provisions

T-8420 Cutting Roadway Vegetation

DESCRIPTION

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

EQUIPMENT

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

REQUIREMENTS

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

**PAY STREAK ROAD MAINTENANCE REQUIREMENTS
 FS-2400-6T Contracts (06/06)
 CT5.31## Special Provisions**

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. 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.

Road Number	Road Name	Location	Remove/Install	Type of Item	Size	Quantity
5235	5235	Current	Maintain	Gate		1
5445-A	5445-A	MP 0.17	Install	Earthen Berm	1/	1
5442-A	5442-A	MP 0.01	Install	Earthen Berm	1/	1

^{1/} Per Typical Drawing—Earthen Berms/Road Closure Devices

I arranged and met with MR. Todd Thompson on Monday, June 20, 2016 on the Pay Streak Timber Sale at stand number 09 which is located off of Tanlund Lake approximately 1/8 mile north of the Tanlund Lake Access road 5422. Mr. Thompson informed me that a permit was not required at our proposed entrance location and that a pipe was not needed if we are to use the location as a temporary entrance.

We also looked at FR 5445A and 5445B which are useable but in need of widening. After completion of logging related activities the access into Payment unit 09 would be restored to allow County Ditch drainage and logs and related debris shall not be placed within the County-right-of-way during logging operations.

Michael Jarvi
Civil Engineering Technician
Watersmeet Ranger District Ontonagon

Todd Thompson
Ontonagon County Road Commission
Bruce Crossing Foreman

SIGNED ORIGINAL IN PRESALE FOLDER

Ottawa National Forest
Watersmeet Ranger District

Specified Road Plan for Paystreak Timber Sale prepared by:



MICHAEL JARVI
Engineering Representative

11/08/2016

Date

03/22/2016

Engineer Cost Estimates

PIPE PRICES
HDPE Price per lin.Ft

<u>12"</u>	<u>\$ 11.00</u>
<u>15"</u>	<u>\$ 14.00</u>
<u>18"</u>	<u>\$17.00</u>
<u>24"</u>	<u>\$29.00</u>
<u>30"</u>	<u>\$43.00</u>
<u>36"</u>	<u>\$53.00</u>

ROADWORK

Minor shaping/grading
 \$900.00 per mile

Maintenance Shape to crown / out slope
 \$2000 to \$3300 per mile

Reconstruction
 \$3300-\$4500 per mile

Shape to ditch
 \$2700.00 per mile

Clearing Widening
 \$2,000.00 per/acre

Composite Road Const.
 \$4500.00---\$8500.00 per mile

Galvanized Metal Pipe Riveted per lin/ft.

<u>12"</u>	<u>16gage</u>	<u>\$14.00</u>
<u>15"</u>	<u>16gauge</u>	<u>\$ 17.00</u>
<u>18"</u>	<u>16gauge</u>	<u>\$ 21.00</u>
<u>24"</u>	<u>16gauge</u>	<u>\$ 26.00</u>
<u>30"</u>	<u>14gauge</u>	<u>\$ 40.00</u>
<u>36"</u>	<u>14gauge</u>	<u>\$ 48.00</u>

Metal Pipe Arch

<u>17" x 13"</u>	<u>16gauge</u>	<u>\$18.00</u>
<u>21" x 15"</u>	<u>16gauge</u>	<u>\$23.00</u>
<u>24" x 18"</u>	<u>16gauge</u>	<u>\$26.00</u>
<u>28" x 20"</u>	<u>16gauge</u>	<u>\$29.00</u>
<u>35" x 24"</u>	<u>14gauge</u>	<u>\$44.00</u>
<u>42" x 29"</u>	<u>14gauge</u>	<u>\$53.00</u>
<u>49" x 33"</u>	<u>12gauge</u>	<u>\$84.00</u>
<u>57" x 38</u>	<u>12gauge</u>	<u>\$96.00</u>
<u>64" x 43"</u>	<u>12gauge</u>	<u>\$113.00</u>

Local Borrow \$5.00 C.Y. and up.

Geotextile \$2.50-- \$ 3.00 Sq.Yd. **Silt fence \$ 3.00 Lin.Foot**

03/22/2016

Engineer Cost Estimates

**PAY STREAK TIMBER SALE
SPECIFIED ROAD SCHEDULE OF ITEMS**

Item Number	Item Description & Milepost	C or R ¹	Unit & M of M ²	Quantity	Road Std. (W, D, S) ³	Unit Allowance	Estimated Allowance
pg 1 of 2	FR 5442-A						
	M.P. 0.00 - 0.02	R			D		
249 03	Composite Road Construction. Re-construct existing road to crown or out slope to match typical drawing and allow for cross drainage including all excavation and travel way widening.		LS LSQ	1		300	\$ 300.00
	M.P. 0.0-0.01						
301 01	Untreated Aggregate Courses. Furnish, haul, and place 15 CY crushed aggregate surfacing (19.5 C.Y. loose).		CY DQ	15		30	\$ 450.00
	M.P. 0.01-0.02						
301 22	Untreated Aggregate Courses. Haul and place 30 cy pit run material (39 C.Y. loose)		CY DQ	30		15	\$ 450.00
	FR 5442-A SPECIFIED ROAD RECONSTRUCTION TOTAL						\$ 1,200.00
	FR 5442-B						
	M.P. 0.00 - 0.56	R			D		
249 02	Composite Road Construction. Re-construct existing road to crown or out slope to match typical drawing.		Mile DQ	0.56		4200	\$ 2,352.00
	M.P. 0.0-0.01						
301 01	Untreated Aggregate Courses. Furnish, haul, and place 15 CY crushed aggregate surfacing (19.5 C.Y. loose).		CY DQ	15		30	\$ 450.00
	M.P. 0.0-0.01-0.10						
301 22	Untreated Aggregate Courses. Haul, and place 111 cy pit run material (144 C.Y. loose material) 500'L x 12"W x 6" D		CY DQ	111		15	\$ 1,665.00
249 03	M.P. 0.09						
	Construct turnaround left		LS LSQ	1		100	\$ 100.00

¹C = Construction; R = Reconstruction

²Method of Measure

³W = Winter; D = Dry Summer; S = Summer

**PAY STREAK TIMBER SALE
SPECIFIED ROAD SCHEDULE OF ITEMS**

Item Number	Item Description & Milepost	C or R ¹	Unit & M of M ²	Quantity	Road Std. (W, D, S) ³	Unit Allowance	Estimated Allowance
	M.P. 0.0-0.15-0.17						
249 03	Minor curve realignment right		LS	1		150	\$ 150.00
pg 2							
	M.P. 0.0-0.15-0.20						
301 22	Untreated Aggregate Courses. Haul, and place 63 cy pit run material (82 C.Y. loose material) surface beginning at the start of curve realignment to top of the hill 260'L x 13'W x 6" D		CY DQ	63		15	\$ 945.00
301 22	Unclassified Borrow. Haul and spot place as directed by the Forest Service 50 CY pit run (65 CY loose).		CY DQ	50		15	\$ 750.00
	FR 5442-B SPECIFIED ROAD RECONSTRUCTION TOTAL						\$ 6,412.00
	FR 5445-B	R			W		
	M.P. 0.0 - 0.24			0.24			
249 02	Composite road construction. Reconstruct road to crown or outslope. Clear and grub road to match typical drawings as directed by the Forest Service. Construct turnaround right at POE.		DQ Mile	0.24		\$ 3,800.00	\$ 912.00
	FR 5445-B Total Specified Road						912.00
	Grand Total Pay Streak Timber Sale Specified Road Schedule of Items						\$ 8,524.00

¹C = Construction; R = Reconstruction

²Method of Measure

³W = Winter; D = Dry Summer; S = Summer

PAY STREAK TIMBER SALE SPECIFIED ROAD NOTES

- NOTE:** The construction requirements for composite road construction slash disposal shall be Method A as described in the Supplemental Specification Item 249.
- NOTE:** Construct the road bed to conform to the typical detail as noted in the narrative description.
- NOTE:** There may be underground utility lines in unknown locations on this project. Call **MISS DIG three full working days** before any work begins. (1-800-482-7171).
- NOTE:** Additional lead-off ditches may be required at road segment locations to allow for proper drainage needs and are included under typical blading and shaping requirements. Locations for placement shall be determined by the Forest Service.
- NOTE:** During gravel hauling operations safety signs shall be placed and hauling shall not commence until all signs have been put in place as directed by the Forest Service.
- NOTE:** **30 CY of crushed aggregate** is required for specified segments of this project. The normal compaction factor of 130% computes to a **loose volume of 39 CY**. **There is no government source available for this material.** Purchaser furnished material shall meet gradation requirements for the Michigan Department of State Highway Transportation designation 22A. *Compact aggregate by operating spreading and hauling equipment over the full width of material.*
- NOTE:** **254 CY of pit run borrow** is required for the specified road segments on this project. The normal compaction factor of 130% computes to a **loose volume of 330 CY**. Borrow source for this project is the **North Jay Bird Pit**, located at T46N, R39W, Section 30 unless changed by written agreement. **Some pit development may be required and is considered incidental to associated items.**

PAY STREAK TIMBER SALE
SUPPLEMENTAL SPECIFICATIONS

Section 101-109 General Requirements

Section 249 Composite Road Construction

Section 301 Untreated Aggregate Courses

SUPPLEMENTAL SPECIFICATION

PREFACE

Delete all but the first paragraph and add the following:

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

SUPPLEMENTAL SPECIFICATION

Section 101 – TERMS, FORMAT, AND DEFINITIONS

101.01 Meaning of Terms.

Add the following:

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

101.03 Abbreviations.

Add the following to (a) Acronyms:

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

Add the following to (b) SI Symbols:

mp	Milepost
ppm	Part Per Million

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

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

Culvert--No definition.

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

Add the following:

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

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

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

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

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

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

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

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

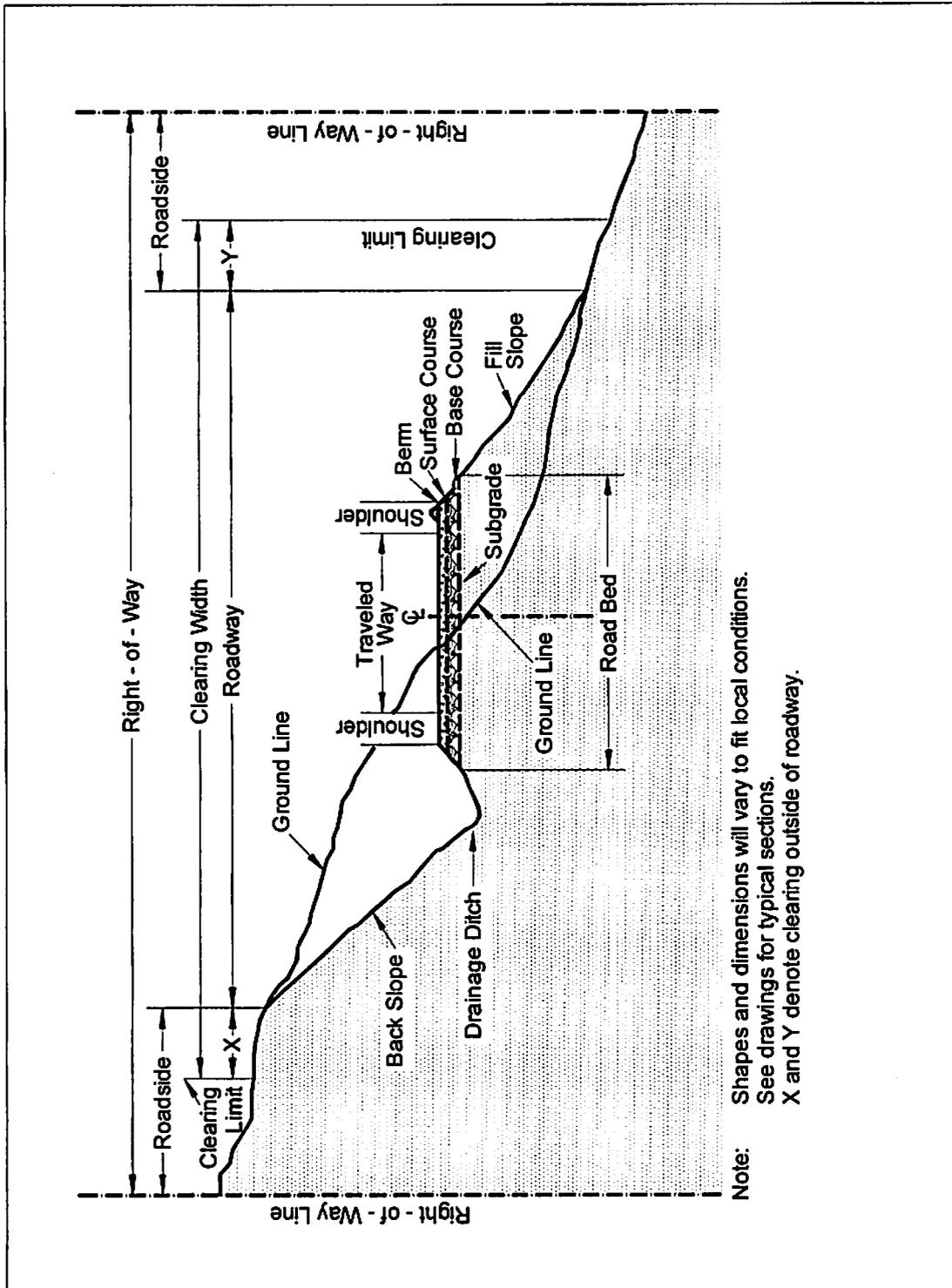
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

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

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

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

Figure 101-1—Illustration of road structure terms.



Note: Shapes and dimensions will vary to fit local conditions.
See drawings for typical sections.
X and Y denote clearing outside of roadway.

SUPPLEMENTAL SPECIFICATION

Section 102 – BID, AWARD, AND EXECUTION OF CONTRACT

102 Delete

Delete Section 102 in its entirety.

SUPPLEMENTAL SPECIFICATION

Section 103 – SCOPE OF WORK

103 Delete

Delete all but subsection 103.01 Intent of Contract.

SUPPLEMENTAL SPECIFICATION

Section 105- CONTROL OF MATERIAL

105.02 Material Sources.

105.02(a) Government Provided Sources.

Add the following:

Comply with the requirements of 30 CFR 56, subparts B and H. Use all suitable material for aggregate regardless of size unless otherwise designated. When required, re-establish vegetation in disturbed areas according to section 625.

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

Material is available for use as (Borrow/pitrun) as needed for the project from North Jay Bird Pit T46N, R39W Sec.30.

There is no charge for material taken from these pits for use on this project.

105.05 Use of Material Found in the Work.

Delete 105.05 (a) and (b) and the last sentence of the second paragraph and substitute the following:

Materials produced or processed from Government lands in excess of the quantities required for performance of this contract are the property of the Government. The Government is not obligated to make reimbursement for the cost of producing these materials.

SUPPLEMENTAL SPECIFICATION

Section 106- ACCEPTANCE OF WORK

106.05 Statistical Evaluation of Work and Determination of Pay Factor (Value of Work).

106.07 Partial and Final Acceptance.

Delete subsection 106.07

SUPPLEMENTAL SPECIFICATION

Section 107- LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

SUPPLEMENTAL SPECIFICATION

Section 108- PROSECUTION AND PROGRESS

Delete Section 108 in its entirety

SUPPLEMENTAL SPECIFICATION

Section 109- MEASUREMENT AND PAYMENT

109.02 Measurement Terms and Definitions

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

- (a) Designated Quantities (DQ). These quantities denote the final number or units to be paid for under the terms of the contract. They are based upon the original design data available prior to advertising the project. Original design data include the preliminary survey information, design assumptions, calculations, drawings, and the presentation in the contract. Changes in the number of units SHOWN in the SCHEDULE OF ITEMS may be authorized under any of the following conditions:
- (1) As a result of changes in the work authorized by the Contracting Officer.
 - (2) As a result of the Contracting Officer determining that errors exist in the original design that cause a pay item quantity to change by 15 percent or more.
 - (3) As a result of the contractor submitting to the Contracting Officer a written request showing evidence of errors in the original design that cause a pay item quantity to change by 15 percent or more. The evidence must be verifiable and consist of calculations, drawings, or other data that show how the designated quantity is believed to be in error.
- (b) Staked Quantities (SQ). These quantities are determined from staked measurements prior to construction.
- (c) Actual Quantities (AQ). These quantities are determined from measurements of completed work.
- (d) Vehicle Quantities (VO). These quantities are measured or weighed in hauling vehicles.
- (e) Lump Sum Quantities (LSQ). These quantities denote one complete unit of work as required by or described in the contract, including necessary materials, equipment, and labor to complete the job. They will not be measured.

Quantity Measurements. The Forest Service shall make all measurements for computation of

quantities for all work items except those specified for payment by Design Quantity (DQ). The Engineer shall compute the quantities for periodic payments and for final payment.

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

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

Section 249. – COMPOSITE ROAD CONSTRUCTION

Description

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

Construction Requirements

249.02 Clearing & Disposal

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

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

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

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

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

(2) **Method B.** Stumps, roots, rocks, topsoil and other grubbing debris shall be concentrated in stump dump areas. Stump dump areas shall be located by the Engineer, be a maximum of 300 feet apart along the road centerline, and generally be located in natural depressions or tucked away behind denser vegetation or ground rises. Stump dumps will vary in size depending on each site, but shall not be closer than 10 feet outside of the clearing limits. Stump dump material shall be matted down as much as possible and shall not obstruct natural drainages.

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

Immediately remove slash deposited in stream courses.

249.03 Pioneering.

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

249.04 Grubbing.

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

249.05 Excavation and Embankment.

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

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

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

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

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

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

249.06 Erosion Control.

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

Measurement

249.07 Method.

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

Payment

249.08 Basis.

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

301 - Untreated Aggregate Courses

301.00_nat_us_03_03_2005

301 Title Change.

Change the title to: **Section 301 Aggregate Courses**

301.01_nat_us_03_03_2005

301.01 Work.

Add the following:

Work includes producing aggregate by pit-run, grid rolling, screening, or crushing methods, or placing Government-furnished aggregate. Work may include additive mineral filler, or binder.

301.02_nat_us_05_16_2005

301.02 Material.

Add the following:

Bentonite	725.30
Calcium Chloride Flake	725.02
Lignon Sulfonate	725.20
Magnesium Chloride Brine or Calcium Chloride Liquid	725.02

301.03_nat_us_02_28_2013

301.03 General.

Add the following:

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 other than maximum size will be required for pit-run or grid-rolled material. For grid rolling, use all suitable material that can be reduced to maximum size. After processing on the road, remove all oversize material from the road and dispose of it as directed by the CO.

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 stockpiled according to Section 320. Establish stockpile sites at locations approved. Clear and grub stockpile sites according to Section 201.

301.04_nat_us_03_03_2005

301.04 Mixing and Spreading.

Delete the first sentence of the first paragraph and add the following:

Ensure that aggregate and any required additives, water, mineral filler, and binder are mixed by the specified method except, if crushed aggregate products are being produced and mineral filler, binder, or additives are required, uniformly blend following crushing. Control additive proportions to 0.5 percent dry weight.

(a) Stationary Plant Method. Mix the aggregate with other required materials in an approved mixer. Add water during the mixing operation in the amount necessary to provide the moisture content for compacting to the specified density. After mixing, transport the aggregate to the

jobsite while it contains the proper moisture content, and place it on the roadbed or base course using an aggregate spreader.

(b) Travel Plant Method. After placing the aggregate for each layer with an aggregate spreader or windrow-sizing device, uniformly mix it with other required materials using a traveling mixing plant. During mixing, add water to provide the necessary moisture content for compacting.

(c) Road Mix Method. After placing the aggregate for each layer, mix it with other required materials at the required moisture content until the mixture is uniform throughout. Mix aggregate, water, and all other materials until a uniform distribution is obtained.

Spread the aggregate in a uniform layer, with no segregation of size, and to a loose depth that will provide the required compacted thickness.

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

Route and distribute hauling and leveling equipment over the width and length of each layer.

301.05_nat_us_05_17_2005

301.05 Compacting

Delete and replace with the following:

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

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

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

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

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

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

Compaction E. Compact to a density of at least 96 percent of the maximum density, as determined by the Modified Marshall Hammer Compaction Method (available upon request from USDA Forest Service, Regional Materials Engineering Center, P.O. Box 7669, Missoula, MT 59807).

Compaction F. Compact to a density of at least 95 per-cent of the maximum density, as determined by AASHTO T 180, method C or D.

Compaction G. Compact to a density of at least 100 percent of the maximum density as determined by the Modified Marshall Hammer Compaction Method (available upon request from USDA Forest Service, Regional Materials Engineering Center, P.O. Box 7669, Missoula, MT 59807).

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.

301.05_nat_us_10_14_2011

301.05 Compacting

Delete and replace with the following:

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

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

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

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

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

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

Compaction E. Removed.

Compaction F. Compact to a density of at least 95 per-cent of the maximum density, as determined by AASHTO T 180, method C or D.

Compaction G. Removed.

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.

301.06 Surface Tolerance.

Add the following:

Thickness and Width requirements:

The maximum variation from the compacted specified thickness is $\frac{1}{2}$ inch. The compacted thickness is not consistently above or below the specified thickness and the average thickness of 4 random measurements for any $\frac{1}{2}$ mile of road segment is within + $\frac{1}{4}$ inch of the specified thickness.

The maximum variation from the specified width will not exceed +12 inches at any point. The compacted width is not consistently above the specified width and the average of any four random measurements along any $\frac{1}{2}$ mile of road segment is within +4 inches of the specified width.

Table 301-1: Add the following:

Table 301-1—Acceptance Sampling and Testing Requirements.

Material or Product	Type of Acceptance (Subsection)	Characteristics	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Subbase & Base Courses L, M, N, O, P, Q, R	Measured and tested conformance (Subsection 106.04)	Plastic Limit	-	AASHTO T 90	1 per each 1,000 T	From the windrow or roadbed after processing	Yes	4 Hours

Table 301-1—Acceptance Sampling and Testing Requirements.

Material or Product	Type of Acceptance (Subsection)	Characteristics	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Aggregate Width	Measured and tested conformance (Subsection 106.04)	Width	-	-	4 per each 0.5 mi	Roadbed after processing	-	4 Hours
Aggregate Thickness	Measured and tested conformance (Subsection 106.04)	Thickness	-	-	4 per each 0.5 mi	Roadbed after processing	-	4 Hours
Additive	Measured and tested conformance (Subsection 106.04)	Amount of Additive	-	-	1 per each 1,000 T	From the windrow or roadbed after processing	No	4 Hours

Table 301-1 Field Density Requirements.

Table 301-1: Delete laboratory and field density requirements for base, subbase, and surfacing and replace with the following:

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Base and Subbase	Measured and tested conformance (Subsection 106.04)	Moisture Density	---					
		Method C	---	AASHTO T 99	1 per type and source of material	Source of material	Yes	Before using in work
			---		"	"	"	"
		Method D	---	AASHTO T 180	"	"	"	"
			---		"	"	"	"
		Compaction	---					
		Method C, D	---	AASHTO T 310 or other approved procedures	1 per 500 t	In-place	---	Before placing the next layer
Surfacing	Measured and tested conformance (Subsection 106.04)	Moisture Density						
			---		"	"	"	Before using in work
		Method D	---	AASHTO T 180	"	"	"	"
			---		"	"	"	"
		Compaction						
		Method C, D	---	AASHTO T 310 or other approved procedures	1 per 500 t	In-place	---	Before placing the next layer

301.08_nat_us_03_30_2005

301.08(b) Plasticity Index.

Add the following to the first sentence:

“and under 703.05(c)(1)”.

301.09_nat_us_07_07_2005

301.09 Measurement.

Replace the second paragraph with the following:

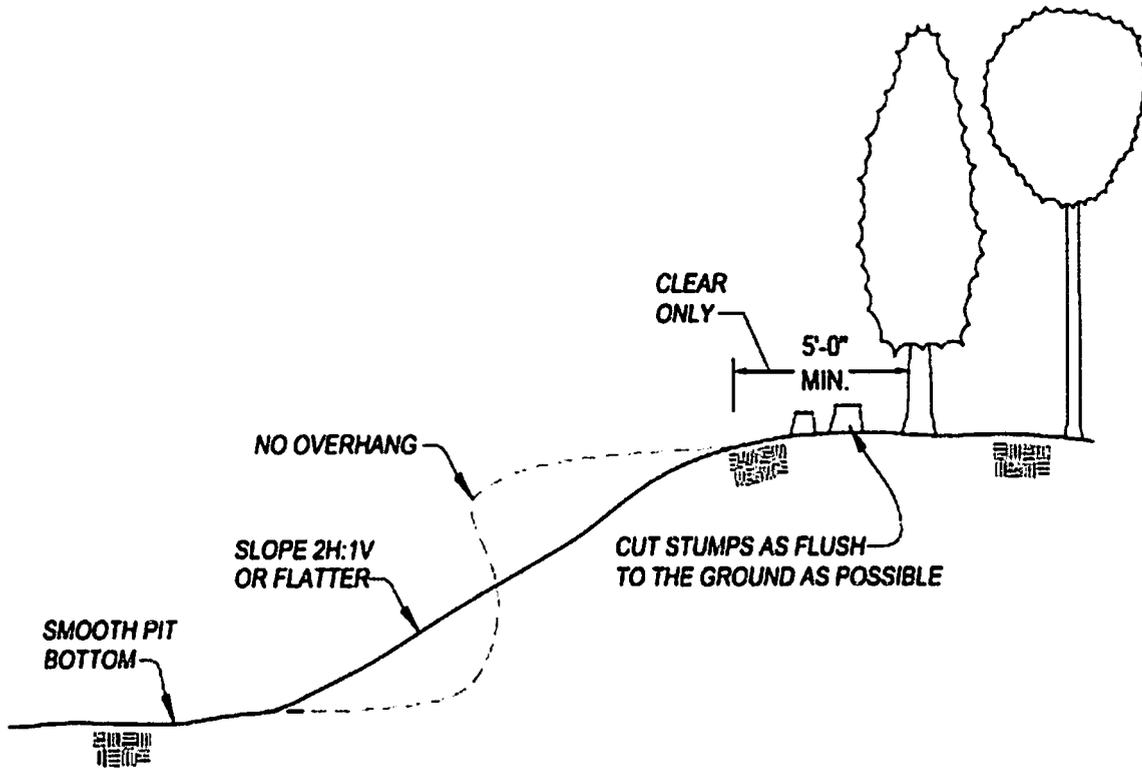
Measure aggregate by cubic yard compacted in place when payment is by contract quantities.

301.10_nat_us_03_03_2005

301.10 Payment

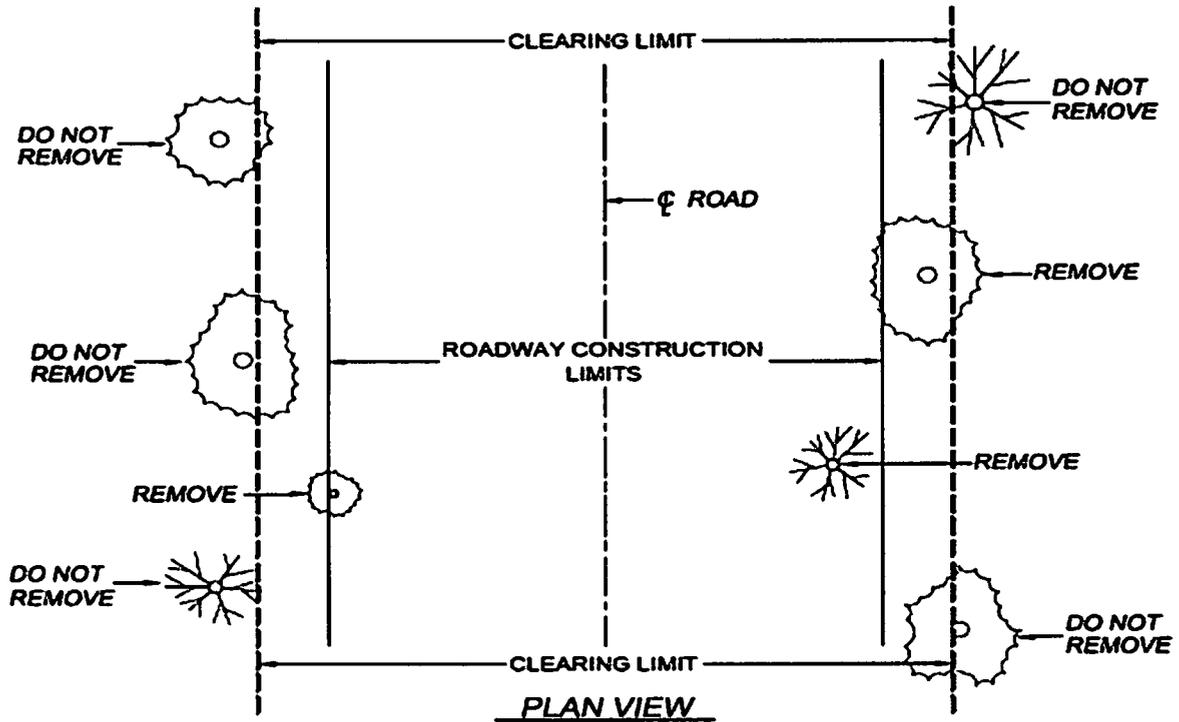
Delete the following:

adjusted according to Subsection 106.05



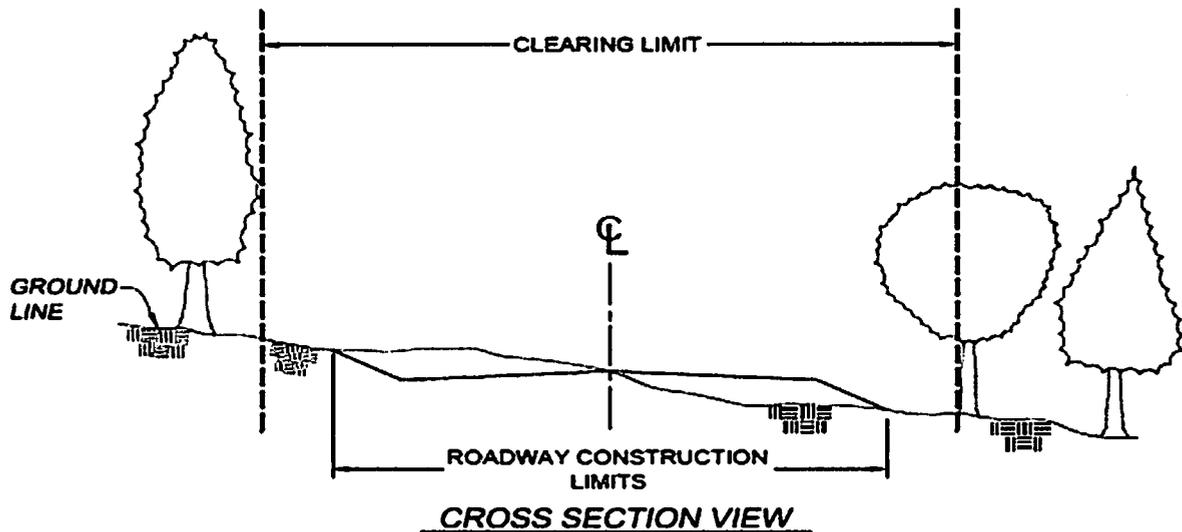
NOTE: TOPS, STUMPS AND TRUNKS SHALL BE DISPOSED OF AS DIRECTED BY THE FOREST SERVICE. STUMPS SHALL BE SEVERED FROM ALL TREES. OVERSIZED ROCK SHALL BE DISPOSED OF IN EXISTING PILES OR AS DIRECTED BY THE FOREST SERVICE. SMOOTH PIT BOTTOM TO REDUCE THE COLLECTION OF WATER. HAUL ROADS SHALL BE MADE SMOOTH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

BORROW PIT CLEAN UP

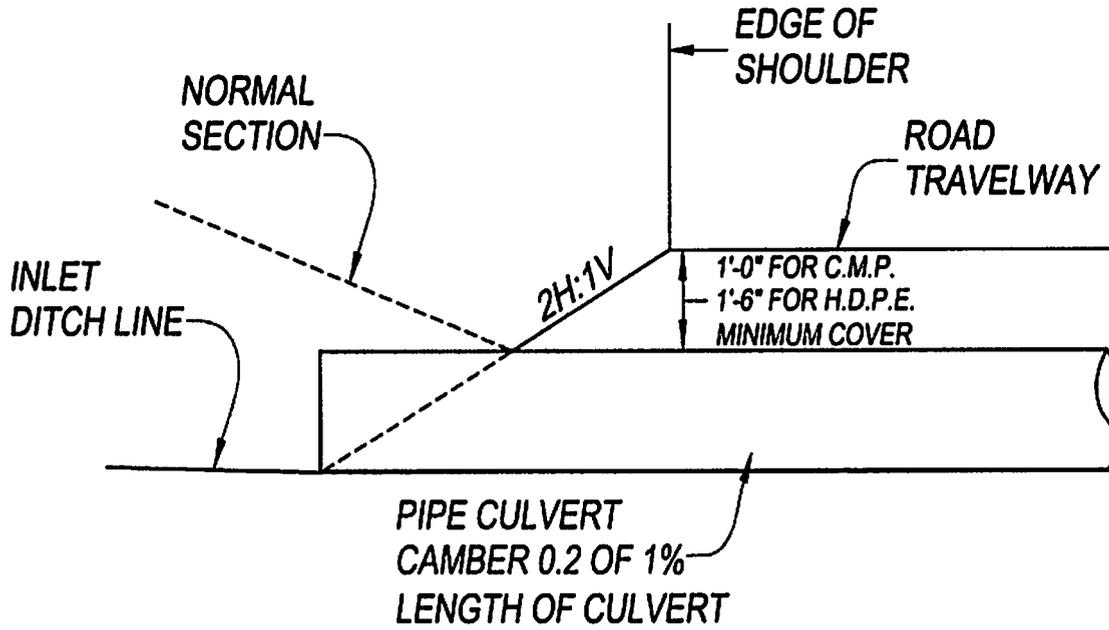


NOTE: TREES ON THE CLEARING LIMIT LINE ARE TO REMAIN UNLESS OTHERWISE DESIGNATED BY THE ENGINEER.

NOTE: YELLOW PAINT INDICATES TREES TO BE REMOVED.

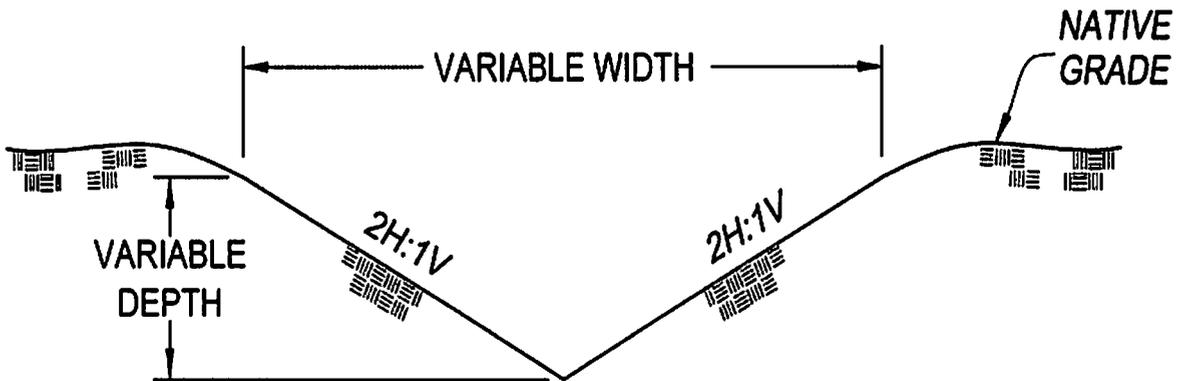


CONSTRUCTION STAKING
NOT TO SCALE



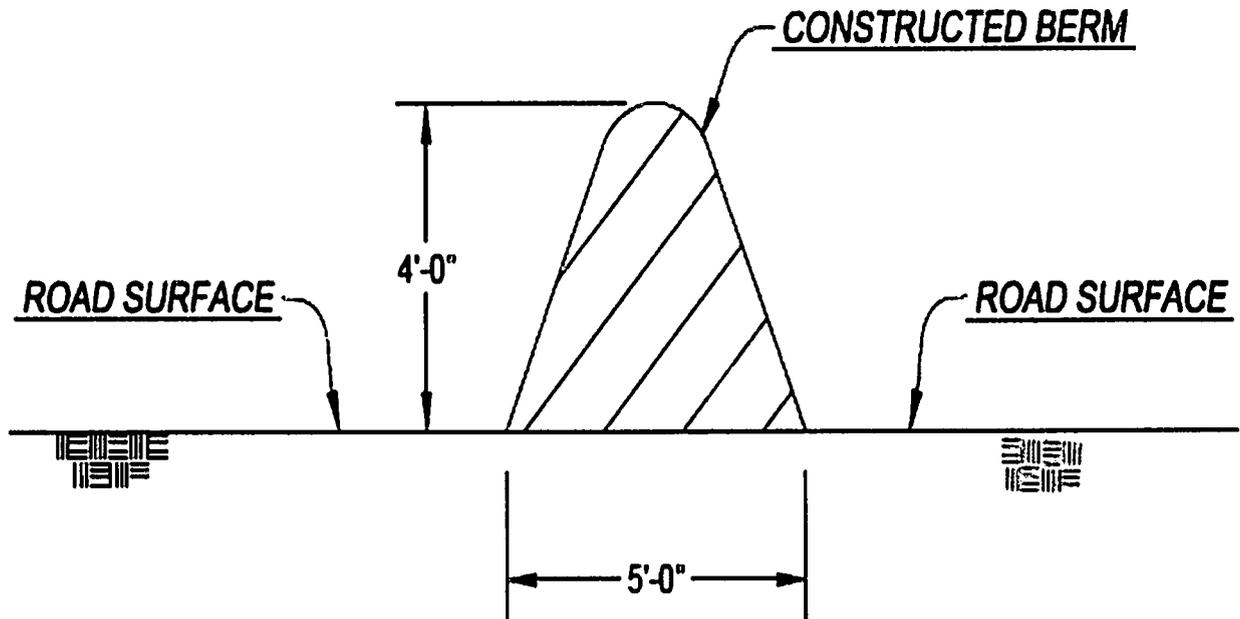
TYPICAL DITCH SECTION AT CULVERT INLET

NOT TO SCALE



TYPICAL INLET AND OUTLET DITCH SECTION

NOT TO SCALE

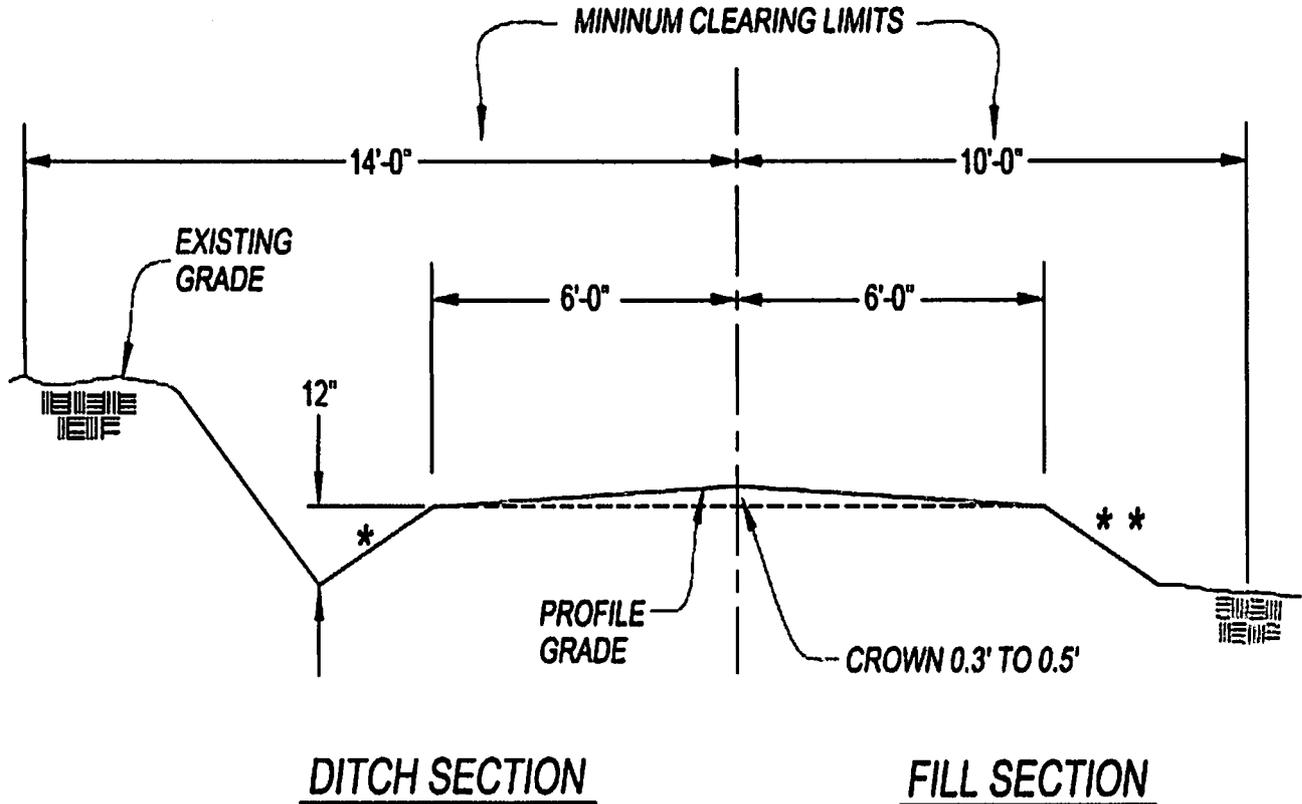


NOTE:

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



*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