

Contract Name: Old Grade Stewardship

KT-CT.3.5.2# - DESIGNATION BY SPECIES AND DIAMETER (09/2004)

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 (see Tree Designation Table) paint or described to be left uncut.

See Tree Designation Table.

Additional trees to be cut, if any, are Marked with Blue paint at eye level with stump mark 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 (see Tree Designation Table) 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.

Contractor 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 Included Timber under AT2.

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WO KT-FT.3.5.2# – DESIGNATION BY SPECIES AND DIAMETER. (09/04)

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/}
2, 8, 11	All trees that meet minimum merchantability specifications in AT.2 EXCEPT Hemlock, White Pine, Red Pine, Eastern White Cedar, Oak, Elm, or SINGLE ORANGE PAINT-BANDED LEAVE TREES. ADDITIONAL TREES to be cut are identified with opposing BLUE PAINT slash at eye level with stump marks.	>=6.0"	

Payment Unit boundaries: Exterior boundaries are marked with 3 ORANGE paint slashes above stump height; interior boundaries are marked with 2 ORANGE paint slashes above stump height on each side of the boundary. Boundary trees are also marked below stump height. Paint marks face to the INSIDE of the Payment Unit. BOUNDARY TREES ARE NOT TO BE CUT.

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

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

PAYMENT UNIT(S)

PAINT COLOR

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R9 KT-CT.3.5.5# - INDIVIDUAL TREES. (11/2007)

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Cut Tree Marking Table

Payment Units	Paint Color
1, 3, 4, 5, 6, 7, 9, 10, 12	Blue
13 (ROW)	Yellow

[Note: there is no Orange-Painted payment unit boundary associated with Payment Unit 13 (ROW)]

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

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

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

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

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

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

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

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

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

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

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

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

Contractor shall apply and maintain Payment Unit 4 temporary "back-in": 30 CY pitrun; Payment Unit 8 temporary "back-in": 50 CY local borrow and 30 CY pitrun; Payment Unit 12: temporary road 15 CY pitrun 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 - Forest Road 8100

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

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

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

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

See Restricted Road List Table.

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KT-FT.1.2# – USE OF ROADS BY PURCHASER. (6/99)

Restricted Road List

Road Number	Road Name	Termini		Map Legend	Description of Restrictions
		From	To		
8100	8100	MP 0.00	End	KO	Keep Open
8100	8100	Bridge over the South Branch of the Presque Isle River		X	Hauling Prohibited Truck Weight Limitation
8135 (Blue Jay Pit Road)	8135			R	Gate shall be closed and locked when operations are not in progress
8146	8146	MP 0.95	End	P	Use Prohibited.
8148	8148	MP 0.00	MP 0.45	U	Unsuitable for Hauling Prior to Required Reconstruction
8148	8148	MP 0.45	End	X	Hauling Prohibited. Use for skidding must be approved prior to use.
8150	8150	MP 1.05	End	X	Hauling Prohibited. Use for skidding must be approved prior to use.
8150-C	8150-C	MP 0.05	End	X	Hauling Prohibited. Use for skidding must be approved prior to use.
8153	8153	MP 0.80	End	P	Use Prohibited.
All Un-Numbered roads Marked with "P"		MP 0.00	End	P	Use Prohibited.
All Un-Numbered roads Marked with "X"		MP 0.00	End	X	Hauling Prohibited. Use for skidding must be approved prior to use.

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

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KT-FT.2.2.1# - MATERIAL SOURCES (09/2004)

Sources of local materials are designated on Plans and Contract Area Map. Forest Service assumes responsibility for the quality and quantity of material in designated sources. Contractor 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 Contractor to use certain area(s) for plant site, stockpiles, and haul roads.

Should the designated source, due to causes beyond the control of Contractor, contain insufficient acceptable material, Forest Service will provide another source with adjustment in accordance with FT.2.5.3.

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

When Contractor elects not to use designated sources and Schedule of Items lists pit development separately, cost allowance will be reduced under FT.2.5.3 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.

Contractor 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. Contractor 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. Contractor 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. Contractor 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 contracts. Forest Service is not obligated to reimburse Contractor 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 Contractor's plant equipment. All storage sites provided by Forest Service shall be restored at Contractor's expense.

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Contractor shall be responsible for making arrangements for storage on other than Forest Service administered 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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WO-KT-FT.2.2.1# - MATERIAL SOURCES. (09/04)

Material	Type of Purchase	Owner(s)	Unit of Measure	Unit Price	Estimated Quantity	Total
Pit Run	N/A	USFS	CY	N/A	445 (578.5 Loose)	445

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

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

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

See Contract Road Maintenance Requirements Summary Table.

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WO-KT-FT.3.1# Road Maintenance Requirements (06/2006)

Contract Road Maintenance Requirements Summary

Road	Termini		Miles	Applicable Prehaul Road Maintenance Specifications								
	From	To		T-8030	T-8110	T-8130	T-8310	T-8340	T-8350	T-8360	T-8420	T-8620
8146	0.00	0.95	0.95			P	P	P		P		P
8148-B	0.00	0.20	0.20			P	P	P		P		
8150	0.00	1.05	1.05			P	P	P		P		P
8150-C	0.00	0.05	0.05				P	P		P		
8153	0.00	0.80	0.80				P	P		P		

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

Road	Termini		Miles	Applicable During Haul Road Maintenance Specifications								
	From	To		T-8030	T-8110	T-8130	T-8310	T-8340	T-8350	T-8360	T-8420	T-8620
8100	Dunham Road	3.90	3.90	P	D		D	D			D	
8135*												P
8146	0.00	0.95	0.95	P			P	P		P		
8148	0.00	0.45	0.45	P			P	P		P		
8148-B	0.00	0.20	0.20	P			P	P		P		
8150	0.00	1.05	1.05	P			P	P		P		
8150-C	0.00	0.05	0.05	P			P	P		P		
8153	0.00	0.80	0.80	P			P	P		P		

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

*Blue Jay Pit

Road	Termini		Miles	Applicable Post Haul Road Maintenance Specifications								
	From	To		T-8030	T-8110	T-8130	T-8310	T-8340	T-8350	T-8360	T-8420	T-8620
8100	Dunham Road	3.90	3.90		D		D	D			D	
8146	0.00	0.95	0.95				P	P	P	P		P
8148	0.00	0.45	0.45				P	P	P	P		P
8148-B	0.00	0.20	0.20				P	P	P	P		
8150	0.00	1.05	1.05				P	P	P	P		P
8150-C	0.00	0.05	0.05				P	P	P	P		
8153	0.00	0.80	0.80				P	P	P	P		

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

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KT-FT.3.2# - ROAD MAINTENANCE DEPOSIT SCHEDULE (09/2004)

Other provisions herein notwithstanding, when Forest Service requests payment in lieu of Contractor's performance of road maintenance, Contractor shall make Required Deposits (16 USC 537) for current and/or deferred road maintenance. Such deposits are based on the estimated volume and distance hauled and Contractor's commensurate use of each road listed in the Road Maintenance Plan in KT-FT.3.1#.

Contractor and Forest Service may agree in writing on adjustment of such rates. If Contractor uses roads under jurisdiction of Forest Service other than those listed in the Road Maintenance Plan, Forest Service shall establish rates commensurate with Contractor's use of such roads.

The Required Deposits for Forest Service work in lieu of Contractor performance and for deferred maintenance is: \$3.19 per CCF.

The following table lists who Contractor will make deposits for road maintenance to, and the rate per unit of measure of the deposit. The Road Maintenance Agreement is available for inspection at the Forest Supervisor's Office.

Deposit Made To	Rate	Unit of Measure
N/A		

KT-GT.3.1.3# - CUTTING SCHEDULE (06/2009)

Unless changed by written agreement, only N/A Payment Units may be released for operations at one time, and the sequence of cutting Payment Units shall be : The Western Portion of Payment Unit 7 must be harvested prior to, or concurrent with the harvest of Payment Unit 2.

Unless there is agreement in writing to postpone specific requirements, all contractual requirements on a Payment Unit shall be accepted by Forest Service prior to the release of an additional Payment Unit.

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

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

Restricted operations/activities:

Within Payment Units 1, 2 and 9 - Harvest Operations are restricted during the period of 3/16 through 7/31 (due to soils) and during the period of 9/1 through 12/14 (due to soils).

Within Payment Units 3, 4, 5, 6, 7, 10 and 12 - Harvest Operations are restricted during the period of 3/16 through 7/15 (due to soils and protection of residual stems) and during the period of 10/1 through 12/14 (due to soils).

Within Payment Unit 8 - Harvest Operations are restricted during the period of 3/16 through 6/30 (due to soils) and during the period of 10/1 through 12/14 (due to soils).

Within Payment Unit 11 - Harvest operations are restricted during the period of 3/16 through 8/31 (due to soils and aspen regeneration requirements) and during the period of 10/1 through 12/14 (due to soils).

Prohibited operations/activities:

N/A

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

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

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

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

Within Payment Unit(s), as shown on Contract Area Map with symbol "SYR": 2

SYR(1): All Included Timber shall be skidded/forwarded out of Payment Unit 2 through the Western Portion of Payment Unit 7 to a landing location designated by the Forest Service.

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

N/A

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

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

All 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.

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

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

At approaches to FR 8100 for the Temporary "back in" landings into Payment Units 4 and 8, closure of these exits consists of restoring the ditchline and shoulders of FR 8100. Beyond the clearing limits of FR 8100, Contractor shall restore the road to slope of surrounding terrain and cover it with logging slash to obliterate the road.

For the Temporary Road exiting Payment Unit 12 onto FR 8100, a 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 and 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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KT-GT.7# - SLASH DISPOSAL MEASURES (06/2009)

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

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

Other specific slash disposal requirements are as follows:

SDZ - Slash resulting from construction clearing (such as from landings and rights-of-way clearing associated with pre-haul maintenance requirements listed in Special Provision KT-PT.3.1#, Specified Road Reconstruction, and temporary roads), 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.

SDZ(1) - as shown on the Sale Area Map in Payment Units 4, 6, 8, 9 and 12, within a strip 50 feet in width, measured from the forested edge of the road along FR 8100, 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. SDZ(1) shall be performed concurrent with operations.

SDZ(2) - Within the Contract Area, except as noted elsewhere in this contract, all debris/slash resulting from the use of slashers/processors or other similar equipment will be removed from landings and roadsides and scattered to lie within 3 feet of the ground or otherwise disposed of as directed by the Forest Service, concurrent with operations.

Logging slash and stumps used in the construction of road closure berms are excluded from the above requirements.

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

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

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

Stewardship Projects

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

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Stewardship Projects

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Mandatory Stewardship Projects		
Project Number	Project Description	Specification Pages
1-002	Aspen Regeneration Site Preparation	SP-2 thru SP-3
1-008	Aspen Regeneration Site Preparation	SP-2 thru SP-3
1-011	Aspen Regeneration Site Preparation	SP-2 thru SP-3
2-001	Road Decommissioning – Slash Closure	SP-4
2-002	Wildlife Habitat – Brushpile Construction	SP-5
2-011	Wildlife Habitat – Brushpile Construction	SP-5

Optional Stewardship Projects		
Project Number	Project Description	Specification Pages
1-001	Hardwood Regeneration Gap Cleaning	SP-6 thru SP-7
1-003	Hardwood Regeneration Gap Cleaning	SP-6 thru SP-7
1-004	Hardwood Regeneration Gap Cleaning	SP-6 thru SP-7
1-005	Hardwood Regeneration Gap Cleaning	SP-6 thru SP-7
2-211	Non-commercial Aspen Regeneration Site Preparation	SP-8 thru SP-9
3-121	Erosion Control Road Maintenance – FR 8121 MP 0.26 thru MP 0.51 & FR 8121-C	SP-10 thru SP-16 & SP-22 thru SP-40
3-122	Erosion Control Road Maintenance – FR 8121 MP 0.00 thru MP 0.26	SP-17 thru SP-21 & SP-22 thru SP-40

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

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

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

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

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

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

- (i) The contract was awarded after December 31, 2006; and
- (ii) A drastic reduction in wood product prices occurred in at least ten of twelve consecutive quarters during the contract term, but not including the quarter in which the contract was awarded.

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

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

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

OLD GRADE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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

SECTION 1. GENERAL

SAMPLE

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

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

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

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

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

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

OLD GRADE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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

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SECTION 2. ROAD MAINTENANCE DEFINITIONS

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

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

Borrow. Select Material taken from designated borrow sites.

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

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

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

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.

OLD GRADE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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

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

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

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

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

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

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

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

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

SECTION 3. ROAD MAINTENANCE REQUIREMENTS SCHEDULE

See WO-KT-FT.3.1# Summary Table, Page 54

SECTION 4. ROAD MAINTENANCE SPECIFICATIONS

INCLUDED SPECIFICATIONS

<u>Specification No.</u>	<u>Specification Title</u>
T-8030	Snow Removal
T-8110	Maintenance Blading/Grading
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

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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:
- Type or use of equipment is not restricted in **KT-FT.1.2#** or Schedule document.
 - Equipment is of the size and type commonly used to remove snow and will not cause damage to the road. Tracked or cleated vehicles shall not be used unless approved in writing by the FSR.
 - The Blade will be equipped with skid shoes to prevent loss of surfacing and damage to the road bed. On gravel and native surface roads, a minimum 4 -inch depth compacted snow mat will be maintained on the roadbed during blading.

REQUIREMENTS

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

OLD GRADE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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WO-KT-FT.3.1# Special Provisions

T-8110 Maintenance Blading/Grading

DESCRIPTION

1.1 Maintenance Blading/Grading is keeping an aggregate surfaced Roadbed in a condition to facilitate traffic and provide proper drainage. It includes maintaining the Crown, Inslope or Outslope of the Traveled Way, Turnouts, and Shoulder; repairing Berms; blending approach road intersections; and cleaning Drainage Dips and Lead-off Ditches.

EQUIPMENT

2.1 The equipment required to shape, spread, and compact surfacing is listed below.

Road Number	Road Termini - From	Road Termini - To	Equipment Description
8100	3.90 miles	Gogebic Co Dunham Road	Motor-grader (or equivalent)

REQUIREMENTS

3.1 Maintenance Blading/Grading shall be performed to facilitate traffic and proper drainage before, during, or after Purchaser's use as required by Section 3. Road Maintenance Requirements Schedule.

3.2 The surface blading shall preserve the existing cross-section. Surface irregularities shall be eliminated and the surface left in a smooth, free-draining state needed to facilitate traffic. Surface Course Material which has been displaced to the Shoulders or Turnouts shall be returned to the Traveled Way. The blading operation shall be conducted to conserve Surface Material and to provide for a thorough mixing of the Material being worked.

3.3 On aggregate surfaced roads Material generated from back slope Sloughing and ditch cleaning shall not be blended with Surface or Base Course Material unless agreed otherwise

3.4 Roadway back slopes shall not be undercut.

3.5 Drainage Dips and Lead-off Ditches shall be cleaned and maintained to retain the existing line, grade, and cross-section.

3.6 Intersecting roads shall be bladed for a distance of 50 feet to assure blending of the surfaces.

3.7 Rocks or other Material remaining on the Traveled Way after the final pass that are 4 inches in diameter or larger shall be removed. The unsuitable Material shall be disposed of by side casting unless agreed otherwise. Side casting into streams, lakes, or water courses will not be permitted.

3.8 Material resulting from this activity shall not remain on or in structures, such as Culverts, cattle guards, ditches, bridges, and Drainage Dips.

3.9 Material resulting from this activity, plus any accumulated debris, shall be removed from roadway structures, such as concrete low-water crossings or fords.

OLD GRADE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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

WO-KT-FT.3.1# Special Provisions

T-8130 Spot Surface Course Placement/Replenishment

SAMPLE
CONTRACT

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
8146 (MP 0.00 – 0.01)	Crushed Aggregate ^{3/}	As Directed by Forest Service	15 CY (19.5 CY) ^{2/}	See 3.2 Above
8146 (MP 0.01 – 0.03)	Pit Run Gravel ^{1/}	100'L x 12'W x 8"D	30 CY (39 CY) ^{2/}	See 3.2 Above
8148-B (MP 0.00 – 0.20)	Pit Run Gravel ^{1/}	As Directed by Forest Service	50 CY (65 CY) ^{2/}	See 3.2 Above
8150 (MP 0.00 – 0.01)	Crushed Aggregate ^{3/}	As Directed by Forest Service	15 CY (19.5 CY) ^{2/}	See 3.2 Above

^{1/} Blue Jay Pit (as shown on Contract Area Map).

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

^{3/} Furnish, Haul, Place. Must meet M-DOT Designation 22A.

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 **IT.3.3**.

OLD GRADE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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

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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.

OLD GRADE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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Road Number	Location	Remove/Install	Type of Structure	Size	Quantity
8150	MP 0.03	Install	Mild Dip & Improve Outlet Ditch to Right	2/	One
8150	MP 0.37	Remove/Dispose	Culvert	Existing	One
8150	MP 0.37	Install	Culvert ^{1/}	15" x 24'	One
8150	MP 0.64	Install	Mild Dip & Improve Outlet Ditch to Left	2/	One
8150	MP 0.81	Remove/Dispose	Culvert	Existing	One
8150	MP 0.81	Install	Culvert ^{1/}	15" x 24'	One

^{1/} High Density Smooth Lined Double Walled Polyethylene Drainage Culvert

^{2/} Per Typical Drawing

^{3/} Equal to or greater than US 205 Nonwoven 8 oz

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.

OLD GRADE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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WO-KT-FT.3.1# Special Provisions

- 3.2** Any of the following methods are acceptable for use at eroded or rutted locations:
- Method A: Outsloping the roadbed at not less than ½ inch per yard of width.
 - Method B: Insloping the roadbed at not less than ½ inch per yard of width.
 - Method C: Water bar roadbed at locations staked on the ground and construct as shown on the enclosed detail.
 - 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 WO-KT-FT.3.1# Summary Table).
- 3.4** Entrance Devices. Upon completion of work, replace entrance devices to effectively eliminate access by motorized vehicles (ML-1).
- 3.5** Seed and fertilize all disturbed areas in accordance with requirements set forth in T-8410 Vegetation Establishment.

T-8360 Composite High Clearance Road Maintenance

DESCRIPTION

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

MATERIALS

- 2.1** Required materials are listed in subsection **3.2**.

REQUIREMENTS

3.1 Traveled Way

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

- 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.
- Center the usable width of the roadbed or position away from the fill slope.
- 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.
- Place all removed material away from drainages and in locations previously agreed to in writing by the FSR.

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5. During use, maintain drainage structures including dips, ditches and culverts in a usable condition and surface in a flat, Insloped or Outsloped, or Crowned, usable condition, per **Typical Drawing**.

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

3.3 Slough and Slides

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

3.4 Slumps, Eroded areas, and Washouts

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

3.5 Posthaul

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

OLD GRADE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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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

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

REQUIREMENTS

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

T-8620 Miscellaneous Maintenance

DESCRIPTION

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

MATERIALS

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

OLD GRADE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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 WO-KT-FT.3.1# Special Provisions

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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 retroreflectivity requirements.

Road Number	Road Name	Location	Remove/Install	Type of Item	Size	Quantity
8135	8135	1/	Maintain	Gate	3' x 20'	1
8146	8146	2/	Install	Berm	3/	1
8148	8148	2/	Install	Berm	3/	1
8150	8150	2/	Remove/Install	Berm	3/	1

1/ Shown on Contract Area Map

2/ At Location Designated by Forest Service

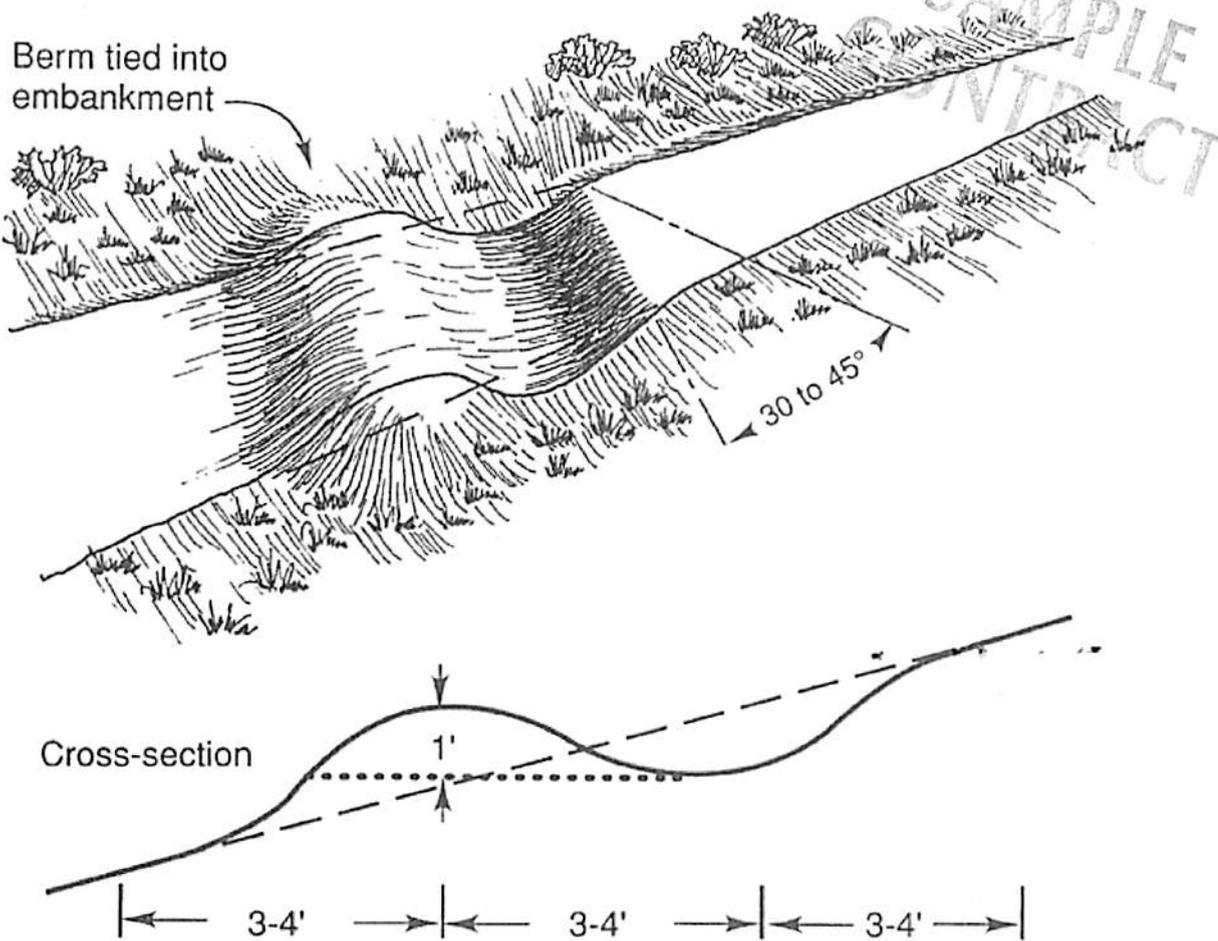
3/ Per Typical Drawing – Earthen Berms/Road Closure Devices

OLD GRADE STEWARDSHIP ROAD MAINTENANCE REQUIREMENTS

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Earthen Berms/Road Closure Devices (Typical Drawing)



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

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

Dig a trench, 12 to 18 inches below the surface of the road or trail, and extend it beyond both sides of the road or trail to prevent runoff from bypassing the water bar. The uphill end of the water bar should extend beyond the side ditch of the road and into an earth-berm to fully intercept any ditch flows. The outflow end of the water bar is to be fully open and extended far enough beyond the edge of the road or trail to safely disperse runoff water onto the undisturbed forest floor. When placement of the closure device does not require the berm to also function as a water bar for drainage, the trench will not be required.

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

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

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PROJECT SPECIFICATIONS INDEX:

Project Name	Page #
1-002, 1-008 & 1-011 Aspen Regeneration Site Preparation	SP-2 thru SP-3
2-001 Road Decommissioning – Slash Closure	SP-4
2-002 & 2-011 Wildlife Habitat - Brushpile Construction	SP-5
1-001, 1-003, 1-004 & 1-005 - Hardwood Regeneration Gap Cleaning	SP-6 thru SP-7
2-211 Non-commercial Aspen Regeneration Site Preparation	SP-8 thru SP-9
3-121 Erosion Control Road Maintenance	SP-10 thru SP-16 & SP-22 thru SP-43
3-122 Erosion Control Road Maintenance	SP-17 thru SP-21 & SP-22 thru SP-40

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

Aspen Regeneration Site Preparation

Project #	Payment Unit	Acres	Mandatory/Optional
1-002	2	9	Mandatory
2-008	8	5	Mandatory
2-011	11	10	Mandatory

A. Site Preparation for Aspen Natural Regeneration

- 1) Cut all tree species over 4 feet tall and less than 5 inches DBH, except do not cut any aspen less than 2 inches DBH OR any black spruce or white spruce less than 5 inches DBH, and do not cut any RED PINE, WHITE PINE, HEMLOCK, CEDAR, RED OAK, ELM, SERVICEBERRY (Amelanchier spp.) or ORANGE PAINT-BANDED TREES.
- 2) When available, retain two to three small clumps per acre of dense conifer saplings with live limbs within one foot of the ground (approximately 100 to 1000 square feet in size). Clumps selected for retention should be those with no, or minimal, logging related damage, i.e. broken and damaged crowns, de-barked stems.
- 3) Leave good quality spruce, removing damaged trees (leaning, logging-scarred, etc.) and trees with less than 20% crowns.
- 4) Shrubs, such as alder, are not required to be cut unless specified in the supplemental specifications.
- 5) Annuals such as grasses, sedges, ferns, etc. are not required to be cut.
- 6) Do not cut dead trees.

B. Felling Specifications

- 1) All trees required to be cut shall be cut below the lowest live limb except when prevented by rocks, existing downed logs, or other existing obstacles to felling.
- 2) Trees required to be cut shall be completely severed from the stump and lie flush to the ground. No tops shall be left hanging in standing trees.
- 3) The stump height of cut trees shall not exceed 6 inches above the ground level on the high side of the stump, or 4 inches above rocks, existing downed logs, or other existing obstacles to felling.
- 4) The cut angle of such stumps shall not exceed 20 degrees measured from a horizontal plane extending from the stump at ground level.
- 5) No boundary trees or Reserve Trees shall be cut or damaged. Boundary trees (KT-CT.3) are defined by 3 ORANGE paint slashes at eye level, with stump mark, for exterior boundaries or 2 ORANGE paint slashes at eye level, with stump mark, for interior boundaries. Reserve Trees (KT-CT.3#) are ringed with a single band of ORANGE paint at eye level, with stump mark.

OLD GRADE STEWARDSHIP

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

Aspen Regeneration Site Preparation

SAMPLE
CONTRACT

- 6) All snags shall not be cut.

C. Equipment Requirements.

- 1) The Contractor will provide cutting tools and equipment that are suitable for the job.
- 2) All power tools shall be equipped with Forest Service approved spark arrestors and in good working condition.
- 3) Heavy equipment (such as processors used in logging) is permitted to do this work when ground conditions support the equipment. Site preparation work may be performed concurrent with logging operations. (Reference Special Provision KT-GT.3.1.4# for operating restrictions)

D. Road Use and Maintenance.

- 1) All roads, excepting temporary roads, leading into each project area are to be kept open and free of any debris that may occur as a result of the work.
- 2) All roads used by the Contractor will comply with Special Provisions KT-FT.1.2# - Use of Roads by Contractor and KT-FT.3.1# - Road Maintenance Requirements of this Contract.

E. Slash Treatment.

- 1) All slash/felled stems that fall outside of the boundary for Contractor's site preparation slash shall be pulled back into the unit.
- 2) Contractor shall treat all slash from site preparation activities which lies within a designated Slash Disposal Zone (SDZ), with the same removal or slash height requirements which apply to slash produced by timber harvest activities.
- 3) In addition, all slash resulting from the Contractor's site preparation activities shall be removed from the cleared edge of any numbered Forest Service System Road, any road authorizing use under a special use permit, or any road maintained by another ownership or governmental unit other than the Forest Service.
- 4) All slash shall be removed from all road ditches, leadout ditches or any other drainage structures.

OLD GRADE STEWARDSHIP

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

Road Decommissioning – Slash Closure

**SAMPLE
CONTRACT**

Project Number	Road #	Location of Slash Closure Work	Unit of Measure	Estimated Quantity	Mandatory/ Optional
2-001	8153	FR 8153 approximately 0.80 miles, beyond where road received road maintenance for harvest of timber for the Old Grade Stewardship Sale	Each	1	Mandatory

Material and Placement Requirements

- Debris material including stumps, trees, logging slash, rocks, and brush should be used to obstruct the travel way on the one (1) road section designated by Forest Service for decommissioning, as listed in the above table. This material may have to be hauled or moved from locations agreed to with Forest Service and placed on designated road segments.
- Material must be scattered across travel way with a minimum of 100% of the road surface covered with material for a distance of 150 feet and an average depth of 36 inches on each road section.
- Material shall be placed parallel, diagonal, and perpendicular to motorized travel direction.

OLD GRADE STEWARDSHIP

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

Wildlife Habitat - Brushpile Construction

SAMPLE
CONTRACT

Project #	#Piles Within Payment Unit	PU Acres	Mandatory/Optional
2-002	2	9	Mandatory
2-011	1	10	Mandatory

*2nd number = Payment Unit # where the brush piles are to be constructed.

Objective: Brushpiles provide potential denning sites for black bear and hiding cover and habitat for numerous herpetiles, small mammals, and birds.

Specifications:

1. Location may be flagged by COR: locate piles near the edge of the Payment Unit (as far away from roads as possible and still within PU), preferably near conifer trees or a wooded wetland/swamp if present; all piles must be placed on dry ground and not in a wetland.
2. Pile size must be 5-6 feet high and 10-12 feet in diameter at the base.
3. Piles must be placed by criss-crossing material in order to create voids within the pile and to avoid a neatly stacked "woodpile" appearance.
4. Logging slash used in the construction must be from cut trees leftover from harvesting within the specified Payment Units. Any tree species available may be used, including a mix of conifer and deciduous.
5. When available, use freshly uprooted stumps as a base for the pile.
6. Do not construct piles adjacent to standing trees >4.0" in diameter, unless approved by Forest Service.
7. Minimize soil placed within the pile if you are pushing the slash material or stumps with a dozer or other type of equipment with a blade.

OLD GRADE STEWARDSHIP

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

Hardwood Regeneration Gap Cleaning

Objective: To release suitable "Crop Trees" or create a growing space to regenerate future "Crop Trees" within Canopy Gaps created with the removal of Included Timber in this Stewardship Contract

Stewardship Credits Earned: Will be based on the acres of the Payment Unit(s) listed below.

Project #	Payment Unit	Unit of Measure	# of Acres*	Mandatory/Optional
1-001	1	Acres	67	Optional
1-003	3	Acres	10	Optional
1-004	4	Acres	29	Optional
1-005	5	Acres	66	Optional

*The quantity is the amount of acres to be treated with gap cleaning, NOT the acreage of the gaps treated. (Example: 2-001, 5 acres with 2 to 6 gaps/acre = 10-30 gap openings treated)

Definitions:

- 1.1 Canopy Gap – A space created by the logging operation with the removal of Included Timber (trees marked for cutting defined in the Timber Specifications in this Contract) creating a hole in the canopy greater than 30 feet in diameter . Such gaps are measured from edge to edge from the crowns. Throughout the treatment area, it is intended to create canopy gaps at a frequency of 2 to 6 gaps per acre, but may be less frequent in stands with more poletimber.
- 1.2 Seedling – Young tree or shrub species generally less than 1 (one) inch in diameter measured at 4.5 feet from the ground.
- 1.3 Sapling – Young tree or shrub species generally considered greater than 1 (one) inch in diameter but less than 5 (five) inches in diameter measured at 4.5 feet from the ground.
- 1.4 Cleaning – Release treatment done to an age class not past the sapling stage to free the favored (Crop Trees) from low quality trees of the same age class (or size class) that overtop them or are likely to do so.
- 1.5 Potential Crop Tree – A seedling which has the potential of growing straight and tall developing a limb-free and defect-free bole of at least 17 feet in height from the ground.

OLD GRADE STEWARDSHIP

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

Hardwood Regeneration Gap Cleaning

SAMPLE
CONTRACT

Technical Specifications for the Treatment:

2.1 Identify Canopy Gaps created by logging Included Timber in this Contract. Clean such Canopy Gap by cutting or flattening with equipment all saplings. Work may be done concurrent with logging operations.

2.2 Cleaning shall "treat" all saplings within the Canopy Gap, including the area up to the boles of trees whose crowns create the perimeter of the Canopy Gap, unless damage will result to those residual trees 5 (inches) or greater in diameter.

2.3 Stump heights of cut stems shall be no higher than 6 (six) inches (measured from the high side of the stump or other obstructions such as rocks or larger stumps). If a Canopy Gap is Cleaned by running over the saplings with equipment, the main bole (not limbs) shall lie within 2 (two) feet of the ground.

2.4 No treated stems shall be left on roads, trails, or within drainage ditches that are currently in use or maintained with this Contract.

2.5 No treated stems either by felling of included timber or by cleaning efforts shall be left laying on top of or otherwise impede the growth or form of the seedlings being released, unless agreed otherwise with Forest Service.

2.6 Any Reserve Trees, other trees identified for protection, or Protected Areas, identified in the Timber Specifications of this Contract shall also be protected during the Cleaning activities.

2.7 Forest Service will work with the Contractor at the beginning of this Stewardship Project Item to flag out representative canopy gaps and identify Potential Crop trees and Low Quality trees/shrubs to treat.

2.8 Contractor shall hang ribbon at each canopy gap that is treated for inspection purposes.

OLD GRADE STEWARDSHIP

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

Non-commercial Aspen Regeneration Site Preparation

SAMPLE
CONTRACT

Project #	Item	Unit of Measure	Quantity	Mandatory/Optional
2-211	Non-Commercial Aspen Regeneration Site Preparation	Acres	1.3	Optional

Habitat Objective: Cut existing trees and woody vegetation to facilitate regeneration of alder, aspen.

Specifications

1. **Time Restrictions:** Work will be conducted during the dormant season to provide best potential for aspen/alder regeneration. No cutting is allowed from May 1- July 15 to protect nesting birds. Work can be done before, during, or after commercial timber harvesting in adjacent payment units.
2. **Pre-work:** Prior to beginning work, Contractor shall schedule and conduct pre-work meeting with Silviculturist and Wildlife staff person (COR) to review contract specifications, obtain maps, and to answer any questions Contractor might have.
3. **Transportation:** Transportation by highway legal or off-highway vehicles is only allowed on designated roads as shown on sale maps.
4. **Location:** The two patches are adjacent (shared boundary) with PU 011 (see map).
5. **Identification:** Both units are identified by 3-slash boundary with pink paint.
6. **ACTIVITY:** Cut and fell all trees and alder 1" DBH and greater except cherry and cedar.
7. **"Widow-makers":** No tops shall be left hanging in other standing trees or shrubs. Contractor will flag with "killer tree" flagging and leave standing any trees which are unsafe to fell or unsafe for workers and inspectors.
8. **Shrubs and Trees to Cut:** All trees and shrubs taller than 3 feet in height shall be completely severed from the stump.
9. **Live or Dead Nesting/Cavity Trees:** Retain all standing live or dead nesting/cavity trees (trees with cavities, crevices, trees that show signs of mortality, such as obvious dead branches, or older trees with exfoliating bark that maybe used for wildlife denning or roosting). These may be felled if contractor considers them to be unsafe.

OLD GRADE STEWARDSHIP

Supplemental Specifications to Special Provision KT>/9# Stewardship Projects

Non-commercial Aspen Regeneration Site Preparation

- 10. Equipment Restrictions:** Heavy equipment or vehicles are not allowed in these non-commercial aspen units. Hand tools only must be used for all tree and shrub cutting. This may include (but is not limited to) chainsaws, brush saws, hand saws, etc.
- 11. Stumps:** Maximum stump height shall be 12" and cut angle of stumps shall not exceed 20 degrees from horizontal.
- 12. Slash:** Cut material (felled trees and slash) can be left scattered within the cutting area, or be felled on top of other felled trees and shrubs, either for ease of operation or to form large brush piles for wildlife denning. If brushpiles are created, the total amount of brushpiles must not cover more than a 20% of the newly created opening.
- 13. Utilization of Merchantable Timber:** Portions of trees which meet the merchantability standards listed with AT.2 of the stewardship contract may be utilized as Included Timber with prior approval by the Forest Service pursuant to provision DT.4.1 of the stewardship contract. Equipment restrictions still apply to the removal of these merchantable portions, with logging slash required to be distributed similar to other felled trees and shrubs as listed in specification #12.

Performance Assessment Methods

Minimum Acceptable Level: 90% on each patch, on all listed specifications

Method of Performance Assessment: Contractor's records and COR's reports, and field verification by Wildlife COR or designated Inspector.

OLD GRADE STEWARDSHIP

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

Stewardship Project 3-121: Erosion Control Road Maintenance –FR 8121 MP 0.26 thru MP 0.51 & FR 8121-C

1. Road maintenance appraised roads include all roads or portions of roads.
2. All finished roadbeds shall be 16' as shown in the typical details for crowned roads with no ditches and for out sloped roads.
3. During clear and grub operations all slash resulting from purchasers operation shall be treated as per KT 6.7#.
4. Blading and shaping requires filling in existing ruts and placing a crown to conform to the typical road detail for a crown with no ditches or for out sloped roads.
5. Additional outlet or lead out ditches may be required at road segment locations to allow for proper drainage needs. Locations for placement shall be determined by the Forest Service and are included in the appraised allowance for clearing and shaping.
6. During borrow hauling operations "Trucks Hauling" signs shall be placed on FR's 8100, 8120 and 8121. Hauling shall not commence until all signs are placed as directed by the Forest Service.
7. There is 20 C.Y. of excess excavated material from the slope riprap lined ditch excavation this segment of FR 8121. This volume computes to a loose volume of 26 C.Y. This material is to be hauled and stockpiled in the Blue Jay Pit, located at T45N, R44W, Section 2, unless changed by agreement with the Forest Service.
8. There is 350 C.Y. of crushed aggregate surfacing (455 C.Y. loose) to be placed on this segment of FR 8121, FR 8121-C and the boat launch parking lot. There is no government source available for this project. Purchaser furnished material shall meet gradation requirements for the Michigan Department of State Highway Transportation-Designation 22A. Compact the aggregate by operating spreading and hauling equipment over the full width.
9. There is 300' of silt fence to be placed along FR 8121-C. See narrative description for locations and quantities. Place silt fence where directed by the Forest Service.
10. There is 20 C.Y. of Class II riprap to be placed in the rock lined ditches on FR 8121 at MP 0.46 to 0.49. There is no government source available.
11. The construction requirements for rock lined ditch will be provided on the typical drawing. 100 S.Y. of Geotextile Type II separation material must be equivalent or greater than US 205 non-woven 8 Oz. fabric which shall be placed under rip rap for the rock lined ditches on FR 8121, MP 0.46 to 0.49.
12. 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.

OLD GRADE STEWARDSHIP

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

Stewardship Project 3-121: Erosion Control Road Maintenance –FR 8121 MP 0.26 thru MP 0.51 FR 8121-C

Item Number	Item Description & Milepost	R or M ¹	Unit & M of M ²	Quantity	Road Std. (W,D,S) ³	Unit Allowance	Estimated Allowance
	FR8121	M			D		
	M.P. 0.26-0.51					DATE: 3/9/2015	
249(03)	Composite Road Construction Work includes shaping road to crown to allow for drainage, to match typical drawing for 16' wide travelway.		Mile AQ	0.25			
301(03)	Untreated Aggregate Courses. Work includes furnishing, hauling and placing 260 C.Y. (338 CY Loose) of crushed aggregate surfacing onto roadway. 1330'L x 16"W x 0.33'D		CY DQ	260			
	M.P. 0.46-0.49						
204(01)	Trench to be excavated for rock lined ditch on left side of travelway. Excavated material to be hauled to Blue Jay Pit. MP 0.46 - 0.49 180'L x 3'W x 1'D 20 CY (26 CY loose)		CY DQ	20			
249(03)	Composite Road Construction Work includes construct lead out ditch, left side of road 50'. MP 0.46		LS LSQ	1			
207(04)	Place Geotextile fabric (180' long x 5' wide) as subgrade stabilizer under rock lined ditch.		DQ SY	100			
251 01	Machine placed riprap class II. Work includes furnishing and placing riprap over geotextile fabric to armor ditch.		CY DQ	20			
	FR 8121 Total Specified Road						
	FR8121-C	M			D		
	M.P. 0.00-0.06						
157 (02)	Soil Erosion control, silt fence. Work includes furnishing and installing as directed by the Forest Service.		FT DQ	300			
203 (04)	Remove existing pipe at milepost 0.02 and dispose off of government property		LS LSQ	1			
208 (01)	Structure Excavation/ Excavate for new culvert bed (28'L x 3'W x 2'D)		LS LSQ	1			
602 52	Furnish & Install corrugated metal pipe arch 13" x 17" x 26'		Lin/Ft AQ	26			
249(03)	Composite Road Construction Work includes shaping road to outslope to allow for drainage and to match typical drawing for 16' wide travelway.		LS LSQ	1			

CONTRACT

¹M= Maintenance, R = Reconstruction

²Method of Measure

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

OLD GRADE STEWARDSHIP

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

Stewardship Project 3-121: Erosion Control Road Maintenance –FR 8121 MP 0.26 thru MP 0.51 FR 8121-C

Item Number	Item Description & Milepost	R or M ¹	Unit & M of M ²	Quantity	Road Std. (W,D,S) ³	Unit Allowance	Estimated Allowance
	FR8121-C Cont.	M			D		
301(03)	Untreated Aggregate Courses. Work includes furnishing, hauling and placing 60 C.Y. (78 CY loose material) of crushed aggregate surfacing onto roadway. 307'L x 16'W x 0.33' D		CY DQ	60			
301(03)	Untreated Aggregate Courses. Work includes furnishing, hauling and placing 30 C.Y. (39 CY loose material) of crushed aggregate surfacing onto parking lot and approach to boat landing. 82'L x 30'W x 0.33' D		CY DQ	30			
	FR 8121-C Total Specified Road						
	Eel Lake Boat Launch Total Specified Road						

¹M= Maintenance, R = Reconstruction

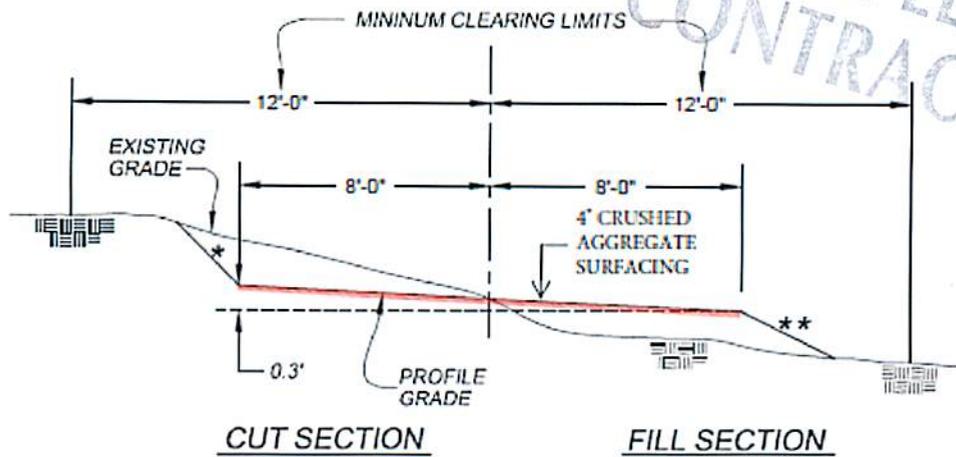
²Method of Measure

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

OLD GRADE STEWARDSHIP

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

Stewardship Project 3-121: Erosion Control Road Maintenance –FR 8121 MP 0.26 thru MP 0.51 & FR 8121-C

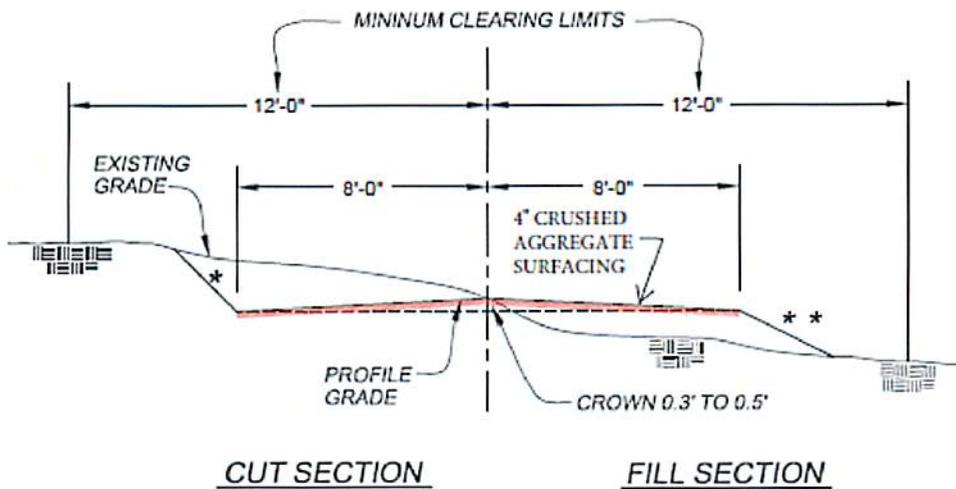


TYPICAL OUTSLOPE DETAIL

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

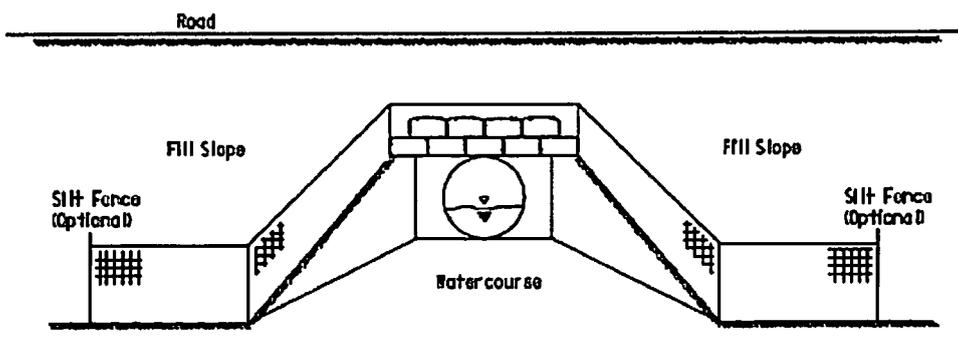
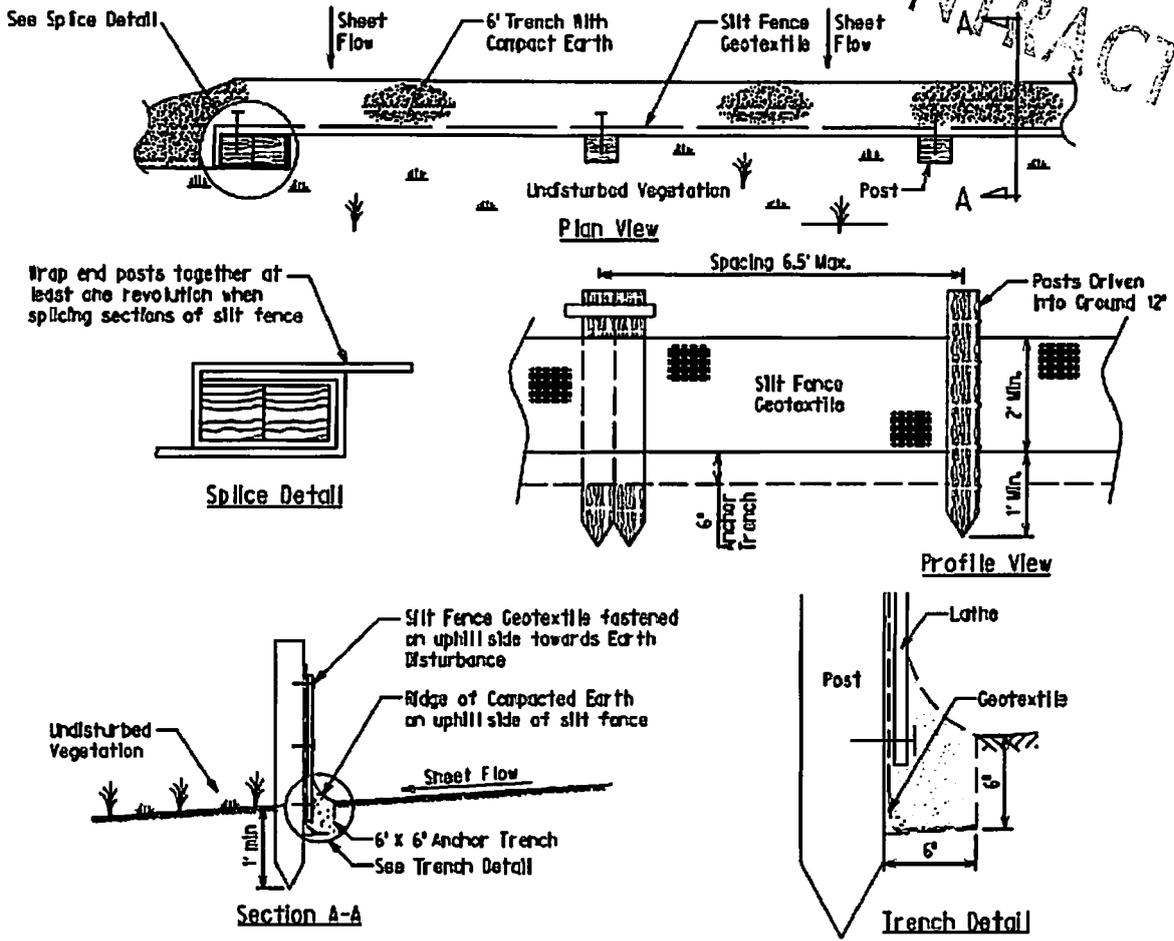
NOT TO SCALE

OLD GRADE STEWARDSHIP

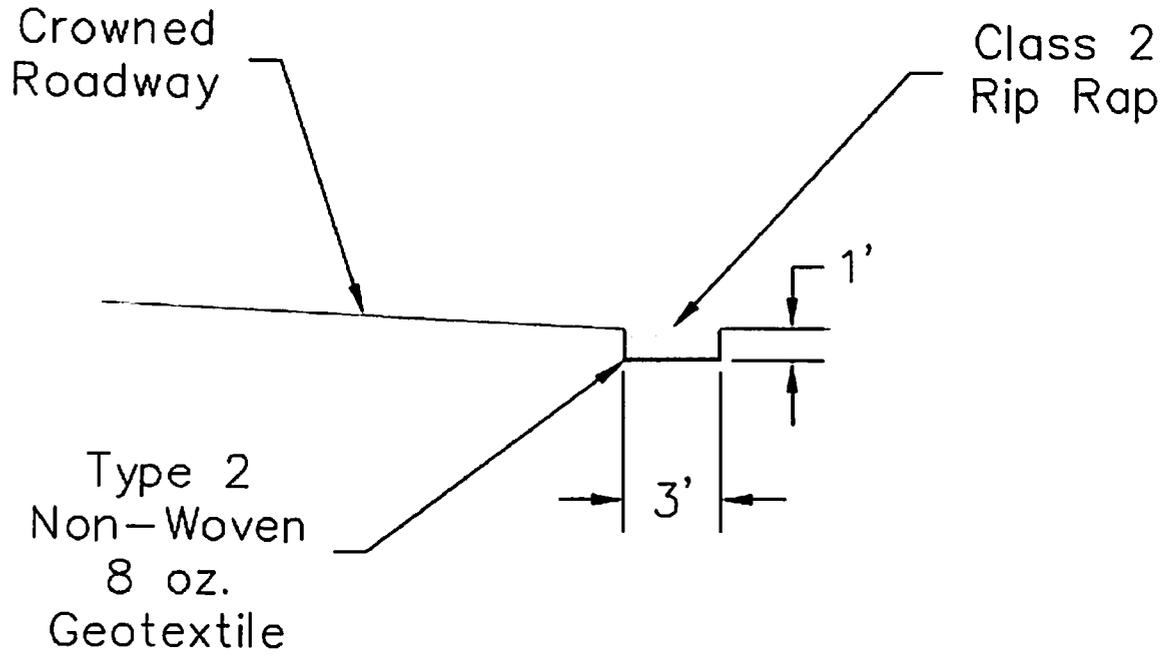
Supplemental Specifications to Special Provision KT-GT.9# - Stewardship Projects

Stewardship Project 3-121: Erosion Control Road Maintenance –FR 8121 MP 0.26 thru MP 0.51 & FR 8121-C

SAMPLE CONTRACT



Rock Lined Ditch Detail

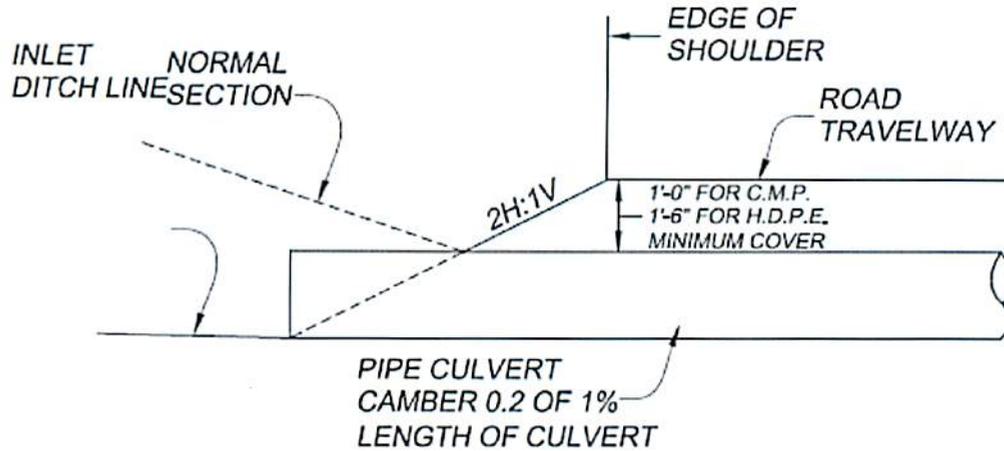


Note: Ditch to be recessed below edge of road to allow for grading.

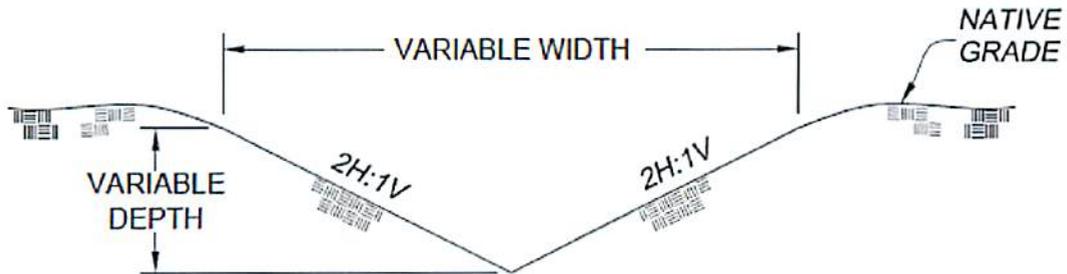
OLD GRADE STEWARDSHIP

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

Stewardship Project 3-121: Erosion Control Road Maintenance -FR 8121 MP 0.26 thru MP 0.51 & FR 8121-C



TYPICAL DITCH SECTION AT CULVERT INLET
NOT TO SCALE



TYPICAL INLET AND OUTLET DITCH SECTION
NOT TO SCALE

OLD GRADE STEWARDSHIP

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

Stewardship Project 3-122: Erosion Control Road Maintenance –FR 8121 MP 0.00 thru MP 0.26

1. Road maintenance appraised roads include all roads or portions of roads.
2. All finished roadbeds shall be 16' as shown in the typical details for crowned roads with no ditches and for out sloped roads.
3. During clear and grub operations all slash resulting from purchasers operation shall be treated as per KT 6.7#.
4. Blading and shaping requires filling in existing ruts and placing a crown to conform to the typical road detail for a crown with no ditches or for out sloped roads.
5. Additional outlet or lead out ditches may be required at road segment locations to allow for proper drainage needs. Locations for placement shall be determined by the Forest Service and are included in the appraised allowance for clearing and shaping.
6. During borrow hauling operations "Trucks Hauling" signs shall be placed on FR's 8100, 8120 and 8121. Hauling shall not commence until all signs are placed as directed by the Forest Service.
7. There is 660 C.Y. of excess excavated material from the slope regrading and riprap lined ditch excavation segments on FR 8121. This volume computes to a loose volume of 858 C.Y. This material is to be hauled and stockpiled in the Blue Jay Pit, located at T45N, R44W, Section 2, unless changed by agreement with the Forest Service.
8. The topsoil, from the slope excavation, on FR 8121 is to be removed and stockpiled. Topsoil is to be placed and spread over the slope, upon completion of the excavation, as directed by the Forest Service.
9. There is 275 C.Y. of crushed aggregate surfacing (357.5 C.Y. loose) to be placed on FR 8121. There is no government source available for this project. Purchaser furnished material shall meet gradation requirements for the Michigan Department of State Highway Transportation-Designation 22A. Compact the aggregate by operating spreading and hauling equipment over the full width.
10. There is 30 C.Y. of Class II riprap to be placed in the rock lined ditches on FR 8121 at M.P. 0.24 to 0.29. There is no government source available.
11. The construction requirements for rock lined ditch will be provided on the typical drawing. 140 S.Y. Geotextile Type II separation material must be equivalent or greater than US 205 non-woven 8 Oz. fabric which shall be placed under rip rap for the rock lined ditches on FR 8121, MP 0.24 to 0.29.
12. 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.

OLD GRADE STEWARDSHIP

**Supplemental Specifications to Special Provision KT-GT.9# - Stewardship Projects
Stewardship Project 3-122: Erosion Control Road Maintenance –FR 8121 MP 0.00 thru MP 0.26**

Item Number	Item Description & Milepost	R or M ¹	Unit & M of M ²	Quantity	Road Std. (W,D,S) ³	Unit Allowance	Estimated Allowance
	FR8121	M			D	DATE: 3/3/21015	
	M.P. 0.00-0.26						
249(03)	Composite Road Construction Work includes shaping road to crown to allow for drainage and match typical drawing for 16' wide travelway.		DQ Mile	0.26			
301(03)	Untreated Aggregate Courses. Work includes furnishing, hauling and placing 275 C.Y. (357.5 CY) of crushed aggregate surfacing onto roadway. 1406'L x 16'W x 0.33'D		CY DQ	275			
	M.P. 0.16-0.26						
249 (03)	Composite Road Construction Work includes clearing and grubbing roadway and slope. Conserve and stockpile topsoil. Topsoil to be spread over slope upon completion of excavation.		DQ Mile	0.1			
204 (01)	Excavate 630 CY (819 C.Y. loose) of slope from left side of travel way to decrease slope. Haul excavated material to Blue Jay Pit. MP 0.17-0.23 324'L x 7.5'W x 7'D		CY DQ	630			
204(01)	Trench to be excavated for rock lined ditch on right side of travelway. Excavated material to be hauled to Blue Jay Pit. MP 0.24 - 0.29 250'L x 3'W x 1'D 30 CY (39 CY loose)		CY DQ	30			
249(03)	Composite Road Construction Work includes construct lead out ditch, right side of road 50'. MP 0.26		LS LSQ	1			
207(04)	Place Geotextile fabric (250' long x 5' wide) as subgrade stabilizer under rock lined ditch.		DQ SY	140			
251 01	Machine placed riprap class II. Work includes furnishing and placing riprap over geotextile fabric to armor ditch.		CY DQ	30			
	FR 8121 Cut Section Excavation Total Specified Road						
	FR 8121 Cut Section Excavation Total						

¹M = Maintenance, R= Reconstruction

²Method of Measure

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

OLD GRADE STEWARDSHIP

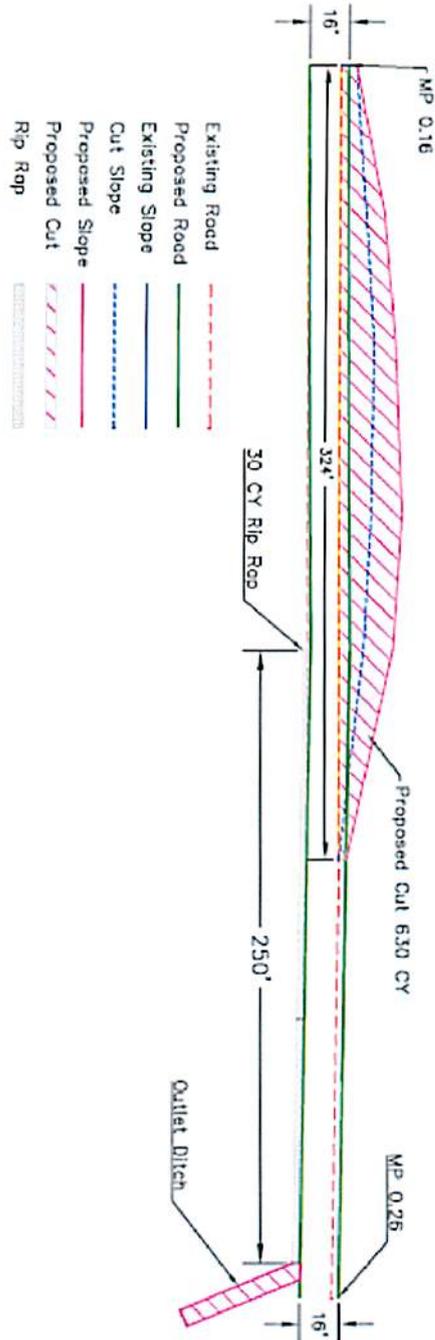
Supplemental Specifications to Special Provision KT-GT.9# - Stewardship Projects

Stewardship Project 3-122: Erosion Control Road Maintenance - FR 8121 MP 0.00 thru MP 0.26

SAMPLE
CONTRACT

FR 8121 Slope Excavation Detail

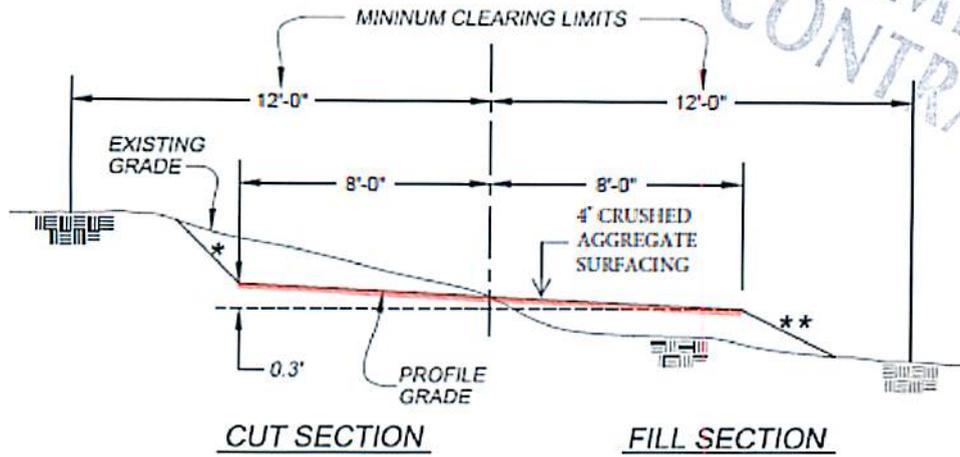
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OLD GRADE STEWARDSHIP

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

Stewardship Project 3-122: Erosion Control Road Maintenance -FR 8121 MP 0.00 thru MP 0.26

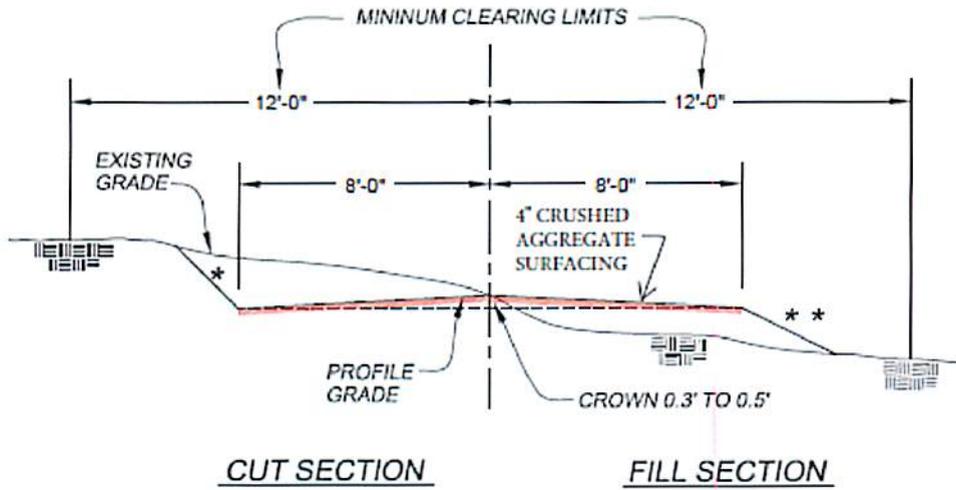


TYPICAL OUTSLOPE DETAIL

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

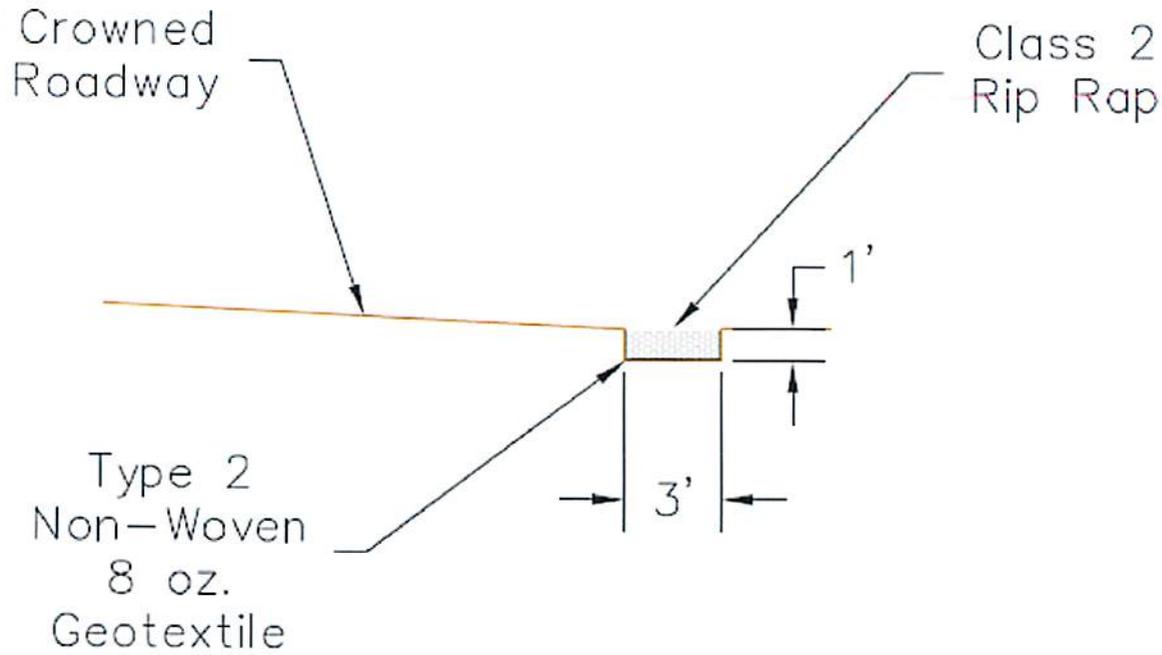
**FILL SLOPES MAY VARY FROM 1-1/2H:1V TO 3H:1V



TYPICAL CROSS SECTION CROWN NO DITCHES

NOT TO SCALE

Rock Lined Ditch Detail



Note: Ditch to be recessed below edge of road to allow for grading.

OLD GRADE STEWARDSHIP

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

Stewardship Project 3-121: Erosion Control Road Maintenance –FR 8121 MP 0.26 thru MP 0.51 & FR 8121-C;

Stewardship Project 3-122: Erosion Control Road Maintenance –FR 8121 MP 0.00 thru MP 0.26

**SAMPLE
CONTRACT**

LIST OF ENGINEERING SUPPLEMENTAL SPECIFICATIONS

Section 101-109 General Requirements

Section 157 Soil Erosion Control

Section 203 Removal of Structures and Obstructions

Section 204 Excavation and Embankment

Section 208 Structure Excavation

Section 249 Composite Road Construction

Section 251 Riprap

Section 301 Untreated Aggregate Courses

Section 602 Culverts and Drains

OLD GRADE STEWARDSHIP

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

Stewardship Project 3-121: Erosion Control Road Maintenance –FR 8121 MP 0.26 thru MP 0.51 & FR 8121-C;

Stewardship Project 3-122: Erosion Control Road Maintenance –FR 8121 MP 0.00 thru MP 0.26

FP03- ENGINEERING SUPPLEMENTAL SPECIFICATIONS

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.

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

OLD GRADE STEWARDSHIP

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

Stewardship Project 3-121: Erosion Control Road Maintenance –FR 8121 MP 0.26 thru MP 0.51 & FR 8121-C;

Stewardship Project 3-122: Erosion Control Road Maintenance –FR 8121 MP 0.00 thru MP 0.26

FP03- ENGINEERING SUPPLEMENTAL SPECIFICATIONS

SAMPLE
CONTRACT

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

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

Culvert--No definition.

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

Add the following:

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

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

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

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

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

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

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

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

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

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

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

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

OLD GRADE STEWARDSHIP

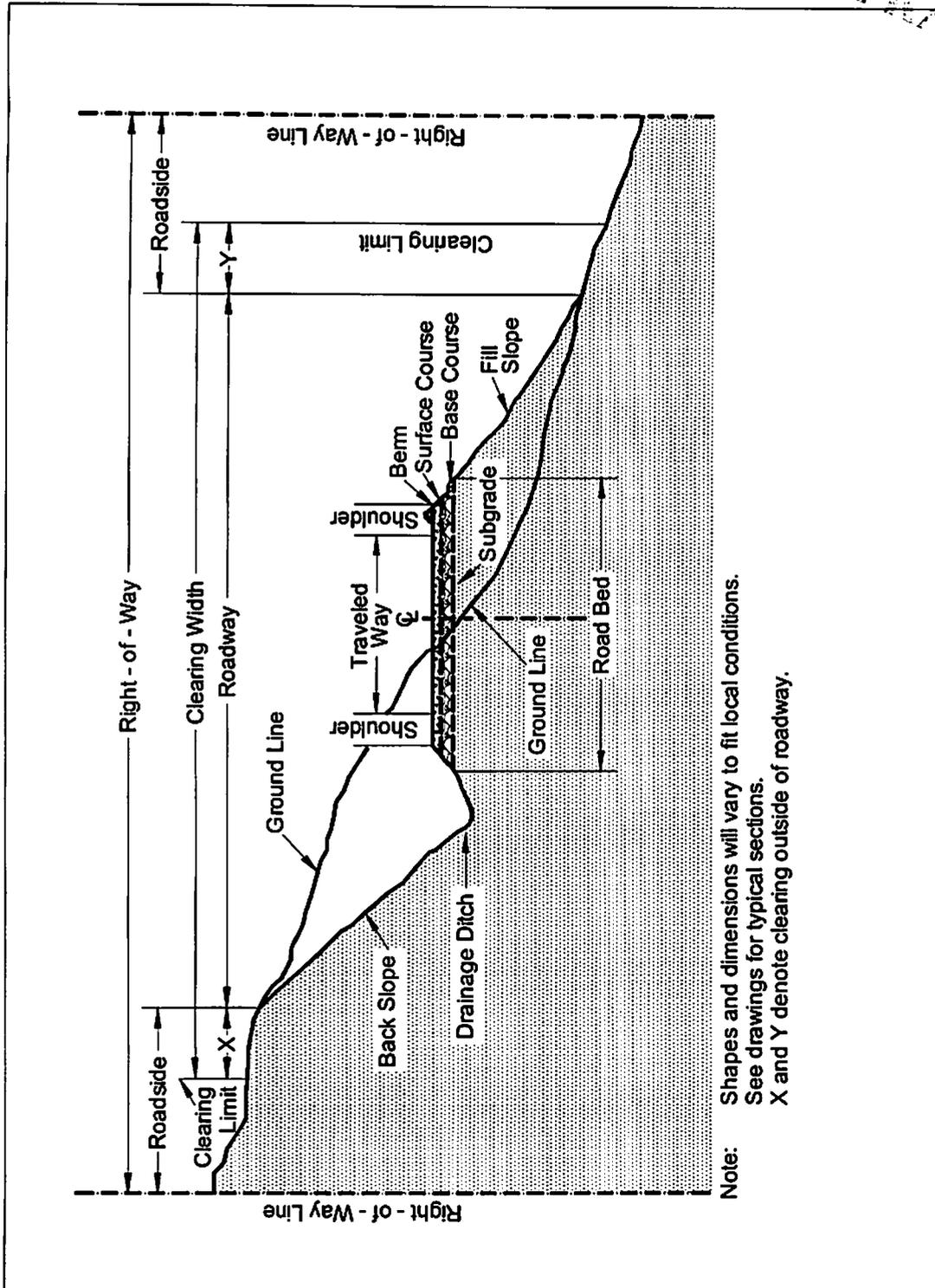
Supplemental Specifications to Special Provision KT-GT.9# - Stewardship Projects

Stewardship Project 3-121: Erosion Control Road Maintenance –FR 8121 MP 0.26 thru MP 0.51 & FR 8121-C;

Stewardship Project 3-122: Erosion Control Road Maintenance –FR 8121 MP 0.00 thru MP 0.26

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Figure 101-1—Illustration of road structure terms.



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Section 102 – BID, AWARD, AND EXECUTION OF CONTRACT

102 Delete

Delete Section 102 in its entirety.

Section 103 – SCOPE OF WORK

103 Delete

Delete all but subsection 103.01 Intent of Contract.

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:

Excavated material is to be hauled to the Blue Jay Pit, T45N, R44W, Sec. 2.

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.

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Section 106- ACCEPTANCE OF WORK

106.07 Partial and Final Acceptance.

Delete subsection 106.07



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.

Section 108- PROSECUTION AND PROGRESS

Delete Section 108 in its entirety.

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.

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- (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 157. - SOIL EROSION CONTROL

157.03 General

(a) Add the following:

Prior to the start of construction, submit a written plan that provides permanent and temporary erosion control measures to minimize erosion and sedimentation during and after construction. Do not begin work until the necessary controls for that particular phase of work have been implemented.

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FP03- ENGINEERING SUPPLEMENTAL SPECIFICATIONS

157.16

Delete (a), (b), & (c).

Replace with:

- (a) 50 percent of the contract quantity at the unit bid price will be paid upon installation.
- (b) Payment of the remaining contract quantity at the unit bid price will be paid at completion and acceptance of the contract.

Section 203 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

203.01 Work.

Delete and replace with the following:

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

203.05 Disposing of Material.

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

Add the following disposal method:

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

Section 204-EXCAVATION AND EMBANKMENT

204.05 Conserved Topsoil.

Delete the subsection.

204.09 Preparing Foundation for Embankment Construction.

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

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

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

Stewardship Project 3-121: Erosion Control Road Maintenance –FR 8121 MP 0.26 thru MP 0.51 & FR 8121-C;

Stewardship Project 3-122: Erosion Control Road Maintenance –FR 8121 MP 0.00 thru MP 0.26

FP03- ENGINEERING SUPPLEMENTAL SPECIFICATIONS

204.10 Embankment Construction.

Add the following:

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

(c) Individual rock fragments and boulders.

Add the following:

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

204.11 Compaction.

Add the following:

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

Add the following compaction method:

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

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

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FP03- ENGINEERING SUPPLEMENTAL SPECIFICATIONS

204.13 Sloping, Shaping, and Finishing.

SAMPLE
CONTRACT

(a) Sloping.

Add the following:

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

(c) Shaping.

Add the following:

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

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

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

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

Delete section (d) and add the following:

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

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

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

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(1) Method A. Remove all material larger than 6 inches from the top 6 inches of the roadbed and replace with suitable material.

(2) Method B. Use a vibratory grid roller or approved equal with a minimum weight of 10 tons. Roll at least 5 full-width passes or until visible displacement ceases.

(3) Method C. For roads designated as Construction Tolerance Class K, L, or M, finish the roadbed by spreading the excavation. Eliminate rock berms.

Add Table 204-2—Construction Tolerances:

Table 204-2 Construction tolerances.

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

a. Maximum allowable deviation from construction stakes and drawings.

b. Maximum allowable deviation from staked slope measured from slope stakes or hinge points.

c. Unless otherwise shown the centerline alignment and subgrade elevation, as built, have no horizontal curves with a radius of less than 80 feet, and no vertical curves with a curve length of less than 80 feet when the algebraic difference in the grade change is less than 10 percent, or a curve length of less than 100 feet when the algebraic difference of the grade change is greater than or equal to 10 percent. The centerline grade is not to exceed 20 percent in 100 feet of length.

204.16

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

Add the following:

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

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Stewardship Project 3-122: Erosion Control Road Maintenance –FR 8121 MP 0.00 thru MP 0.26

FP03- ENGINEERING SUPPLEMENTAL SPECIFICATIONS

Section 208. –STRUCTURE EXCAVATION AND BACKFILL FOR SELECTED MAJOR STRUCTURES

Construction Requirements

208.04 General.

Delete the following: Excavate trenches or foundation pits to a width and length that allows room for work.

And replace with the following:

Excavate trenches for culverts at least as wide as one diameter plus one diameter or span of the structure on each side or 12 feet, whichever is less, with a minimum of two feet on each side.

208.10 Backfill

Add after the second sentence:

On each side of the pipe there shall be an area of compacted material at least as wide as one diameter or span of the structure, with a minimum of two feet or a maximum of twelve feet.

Measurement

208.13 Delete (a), Replace with:

(a) Material excavated outside vertical planes located one pipe diameter or span or a maximum of 12 feet outside and parallel to the limits of the footings or foundations.

Section 209. STRUCTURE EXCAVATION AND BACKFILL

209.10 Backfill.

(a) General.

Add the following:

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:

- Embankment height greater than 6 feet at subgrade centerline.
- Installation in a protected stream course.
- Round pipe with a diameter of 48 inches or greater.
- Pipe arches with a span of 50 inches or greater.
- Any box culvert of structure other than pipe culverts.

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Stewardship Project 3-122: Erosion Control Road Maintenance –FR 8121 MP 0.00 thru MP 0.26

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209.10 Backfill.

(a) General.

Add the following:

Replace any pipe that is distorted by more than 5 percent of nominal dimensions, or that is ruptured or broken.

(b) Pipe culverts.

(1) Pipe culverts with compacted backfill.

Add the following:

On each side of the pipe there shall be an area of compacted material at least as wide as one diameter or span of the structure, with a minimum of two feet or a maximum of twelve feet. Compact the backfill without damaging or displacing the pipe. Complete the backfilling of the trench with suitable material.

109.11 Compacting.

Delete the subsection and add the following:

Compact backfill using designated compaction method A, B, or C:

Method A. Ensure that backfill density exceeds the density of the surrounding embankment.

Method B. Adjust the moisture content of the backfill material to a moisture content suitable for compaction. Compact each layer using appropriate compaction equipment until visual displacement ceases. For compaction under sections 252, 254, 255, 257, and 258 compact with a vibratory steel wheeled roller with a mass of at least 8 tons.

Method C. Determine optimum moisture content and maximum density according to AASHTO T 99 method C. Adjust the moisture content of the backfill material to a moisture content suitable for compaction. Compact material placed in all layers 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.

Table 209-1 Sampling and Testing Requirements

Add the following:

(2) Compaction methods (A) and (B) do not require AASHTO T-99 or T-310 test methods for foundation fill.

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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.

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Immediately remove slash deposited in stream courses.

249.03 Pioneering.

Do not undercut the final back slope during pioneer operations. Deposite 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.

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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

Section 251 - RIPRAP

251.04 Add: Place geotextile under all placed riprap.

Section 301- UNTREATED AGGREGATE COURSES

301 Title Change.

Change the title to:

Section 301- AGGREGATE COURSES

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.

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301.03 General.

Add the following:

Request approval in writing of the roadbed 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 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 during crushing. Control additive proportions to 0.5 percent dry weight.

The aggregate shall be spread in a uniform layer, with no segregation of size, and to a loose depth that shall have the required thickness when compacted.

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.

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.

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.

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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 Compacting.

Delete the first and third paragraphs and add the following:

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

- (a) Compaction A. Compact the aggregate by operating spreading and hauling equipment over the full width of each layer of the aggregate.
- (b) Compaction B. 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).
- (c) Compaction C. Compact each layer of aggregate to a density of at least 95 per-cent of the maximum density, as determined by AASHTO T 99, method C or D.
- (d) Compaction D. Compact each layer of aggregate to a density of at least 95 percent of the maximum density, as determined by AASHTO T 180, method C or D.
- (e) Compaction E. Operate rollers and compact as specified in Subsection 204.11(a).

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 thickness of the compacted nominal aggregate shall not vary more than ½ inch for aggregates with a maximum particle size of 1 inch or less, nor more than 1 inch for aggregates with a nominal maximum particle size greater than 1 inch from the thickness SHOWN ON THE DRAWINGS. The compacted thickness shall not be consistently above or below the specified thickness.

301.09 Measurement.

Delete:

Measure aggregate by the cubic yard in the hauling vehicle and substitute with the following:

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

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Payment

When materials are produced and furnished by the Forest Service, the note “Government furnished materials” will be added to the description of the pay item.

Section 602- CULVERTS AND DRAINS

Description

602.01 Delete 602.01 in its entirety and substitute with the following:

602.01 This work shall consist of furnishing and installing, or installing only, metal pipe and Corrugated High Density Polyethylene (HDPE) with smooth interior and pipe appurtenances, including all bedding and backfilling required to complete the work. The term metal refers to aluminum and steel.

Material

602.02 Add: Corrugated High Density Polyethylene Drainage Pipe shall meet the requirements of AASHTO M252, ASTM F405, and ASTM 667 and be non – perforated. Advance Drainage systems N – 12 pipe meets these requirements.

602.03 General.

Add the following:

Ensure that the final installed alignment of all pipe allows no reverse grades, and does not permit horizontal and vertical alignments to vary from a straight line drawn from center of inlet to center of outlet by more than 2 percent of pipe center length or 1.0 foot, whichever is less.

Backfill material shall be readily compactible material free of frozen lumps, chunks of highly plastic clay (Plasticity Index greater than 10), or other objectional material. Rocks larger than 3 inches in greatest dimension shall not be used within 1 foot of the pipe.

Payment

When materials are produced and furnished by the Forest Service, the note “Government furnished materials” will be added to the description of the pay item.

**OLD GRADE STEWARDSHIP 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	FR 8148	R				DATE:	7/22/2014
	M.P. 0.0-0.45				D/W		
249(02)	Composite Road Construction Work includes clearing, grubbing and shaping road to crown or out slope and restore ditches. Construct outlet ditches to allow for drainage as directed by the Forest Service		DQ Mile	0.45		3400 \$	1,530.00
203 (04)	Remove existing pipe at milepost 0.01 and dispose off of government property		EA AQ	1		250 \$	250.00
249 (03)	Prepare pipe bed/restore ditches left and right.		LS LSQ	1		150 \$	150.00
602(74)	Furnish and install 15" x 30' high density polyethylene dual walled drainage pipe at m.p. 0.01.		LF AQ	30		14 \$	420.00
301(03)	M.p. 0.01 Untreated Aggregate Courses. Work includes furnishing, hauling and placement of 15 C.Y. crushed aggregate surfacing.(19.5 loose mat.)		CY DQ	15		25 \$	375.00
204 (52)	Unclassified borrow Work includes hauling and placing 60 C.Y. pit run (78 c.y. loose material) at milepost 0.0-0.04 (202' X12"W X 8")		CY DQ	60		11 \$	660.00
249 (03)	Remove berm		LS LSQ	1		75 \$	75.00
204 (52)	Unclassified borrow Work includes hauling and placing 60 C.Y. pit run (78 c.y. loose material) at milepost 0.06-0.10 (202 L X 12W X 8")		CY DQ	60		11 \$	660.00

¹C = Construction, R = Reconstruction

²Method of Measure

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

**OLD GRADE STEWARDSHIP 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. 2	FR 8148 (CONT)				D/W		
249 (03)	Shape to hardened to dip left at m.p. 0.07 with outlet shaping left.		LS LSQ	1		100	\$ 100.00
207 (04)	Place geotextile non woven 8 oz. fabric under pit run material at dip.(30L x 15W) at milepost 0.07		SY DQ	50		2.5	\$ 125.00
249 (03)	Shape to hardened to dip left at m.p. 0.15 with outlet shaping left.		LS LSQ	1		100	\$ 100.00
207 (04)	Place geotextile non woven 8 oz. fabric under pit run material at dip.(30L x 15W) at m.p. 0.15		SY DQ	50		2.5	\$ 125.00
204 (52)	Unclassified borrow Work includes hauling and placing 30 C.Y. pit run (39 c.y. loose material) over fabric at m.p. 0.14-0.16		CY DQ	30		11	\$ 330.00
249 (03)	Shape to hardened to dip left at m.p. 0.19 with outlet shaping left.		LS LSQ	1		100	\$ 100.00
207 (04)	Place geotextile non woven 8 oz. fabric under pit run material at dip.(30L x 15W) at m.p. 0.19.		SY DQ	50		2.5	\$ 125.00
204 (52)	Unclassified borrow Work includes hauling and placing 30 C.Y. pit run (39 c.y. loose material) over fabric at m.p. 0.18-0.20		CY DQ	30		11	\$ 330.00

¹C = Construction, R = Reconstruction

²Method of Measure

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

**OLD GRADE STEWARDSHIP 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. 3	FR 8148 (CONT)				D/W		
204 (52)	Unclassified borrow Work includes hauling and placing 95 C.Y. pit run (123.5 c.y. loose material) at milepost 0.26-0.32 (320' L X 12' W X 8")		CY DQ	95		11	\$ 1,045.00
249 (03)	Shape to hardened to dip left at m.p. 0.31 with outlet shaping left.		LS LSQ	1		100	\$ 100.00
207 (04)	Place geotextile non woven 8 oz. fabric under pit run material at dip at m.p. 0.31.(30L x 15W)		SY	50		2.5	\$ 125.00
249 (03)	Shape to hardened to dip left at m.p. 0.37 with outlet shaping left.		LS LSQ	1		100	\$ 100.00
207 (04)	Place geotextile non woven 8 oz. fabric under pit run material at dip at m.p. 0.37. (30L x 15W)		SY DQ	50		2.5	\$ 125.00
204 (52)	Unclassified borrow Work includes hauling and placing 30 C.Y. pit run (39 c.y. loose material) over fabric at m.p. 0.36-0.38		CY DQ	30		11	\$ 330.00
	FR 8148 TOTAL SPECIFIED ROAD SCHEDULE OF ITEMS						\$ 7,280.00
	Pit Run may be taken from Blue Jay Pit or other sources with prior approval of the Forest Service.						

¹C = Construction, R = Reconstruction

²Method of Measure

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

OLD GRADE STEWARDSHIP SALE

SPECIFIED ROAD NOTES

- NOTE: All finished roadbeds shall be 12' as shown in the typical details for crowned roads with no ditches, 1' ditches and out sloped roads.
- NOTE: In the narrative compacted and loose volumes are noted with loose volumes in parenthesis.
- NOTE: There may be underground utility lines in unknown locations on this project. Call MISS DIG THREE full working days before any work begins. Phone 1-800-482-7171.
- NOTE: Reconstructed roads have areas that need shaping to allow for cross drainage. When working in locations with high rock content shaping may have to be reduced due to lack of available soil and surface conditions.
- NOTE: There is **305 C.Y. of pit run** material required for road specified segments. This volume plus the normal compaction factor of 130% for pit run computes to a loose volume of 396.5 C.Y. The material source for this project is the Blue Jay Pit, located at T45N, R44W, Section 2, unless changed by agreement with the Forest Service. Some pit development may be required and is considered incidental to associated items.
- NOTE: There is **15 C.Y. of crushed aggregate surfacing** (19.5 C.Y. loose) to be placed at the entrance of FR 8148. **There is no government source available for this project.** Purchaser furnished material shall meet gradation requirements for the Michigan Department of State Highway Transportation-Designation 22A. Compact the aggregate by operating spreading and hauling equipment over the full width.
- NOTE: Geotextile Type II separation material must be equivalent or greater than **US 205 non-woven 8 Oz. fabric** which shall be placed under pit run at dip locations as noted on Schedule of Items.
- NOTE: Winter standard typical roads shall be built to minimize soil disturbance and potential erosion, and allow for proper cross drainage.
- NOTE: During clear and grub operations all slash resulting from purchasers operation shall be treated as per CT 6.7#.
- 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.

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

Specification List

SAMPLE CONTRACT

Project Name OLD GRADE STEWARDSHIP SALE

Date Prepared 7/29/2014

Road Number		FR 8148		FR 8148	
Road Name			Termini....		
			Construction Reconstruction	0.45	
Spec. No.	Title				Latest Revised Edition
101 thru 109	General Requirements		X		2003
203	Removal of Structures and Obstructions		X		2003
204	Excavation and Embankment		X		2003
207	Earthwork Geotextiles		X		2003
301	Untreated Aggregate Courses		X		2003
602	Culverts and Drains		X		2003

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

OLD GRADE STEWARDSHIP SALE
SUPPLEMENTAL SPECIFICATIONS

SAMPLE
CONTRACT

Section 101-109 General Requirements

Section 203 Removal of Structures and Obstructions

Section 204 Excavation and Embankment

Section 249 Composite Road Construction

Section 301 Untreated Aggregate Courses

Section 602 Culverts and Drains

SUPPLEMENTAL SPECIFICATION

PREFACE

SAMPLE
CONTRACT

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

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

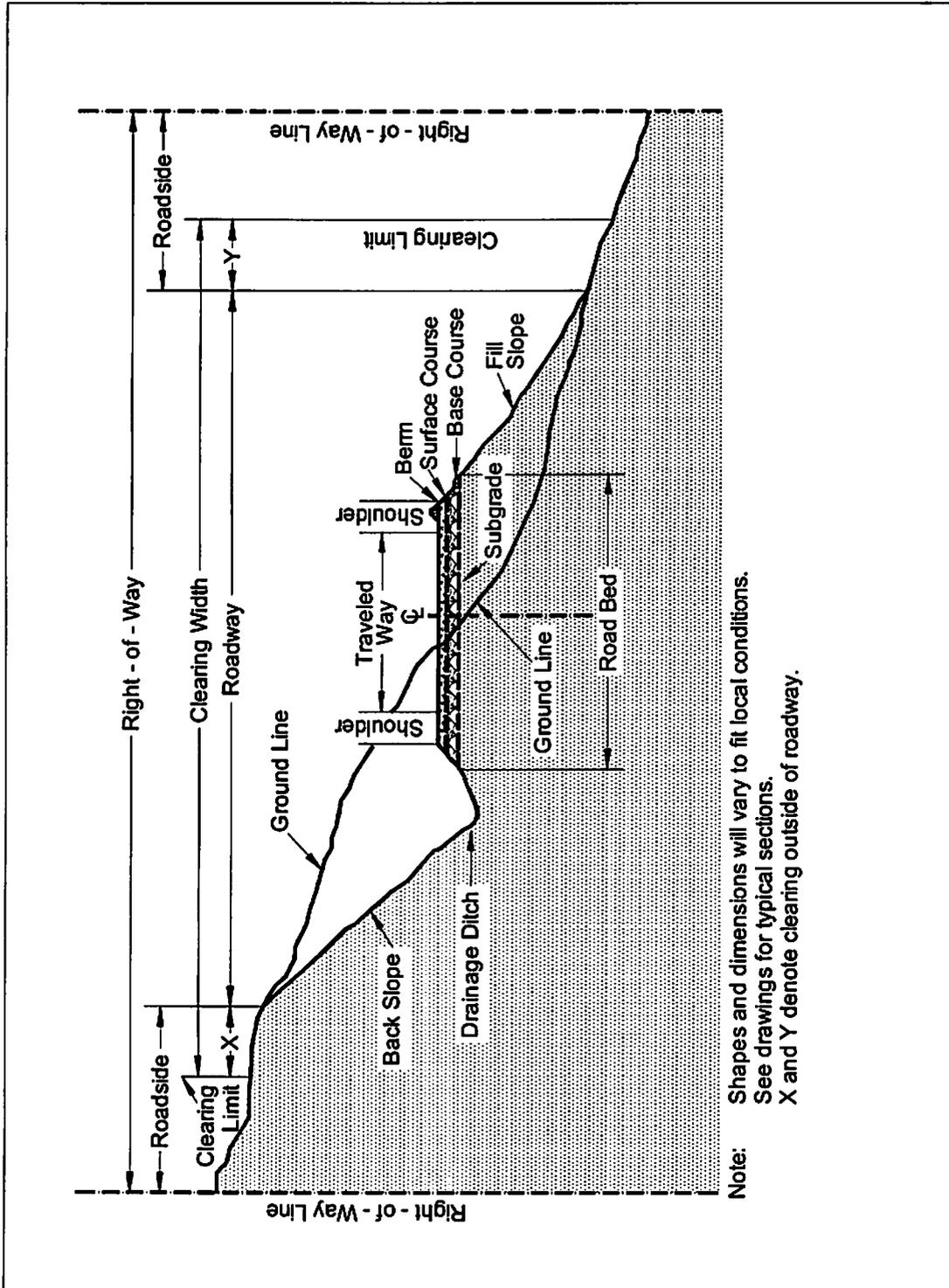
Schedule of Items--A schedule in the contract that contains a listing and description of construction items, quantities, units of measure, unit price, and amount.

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

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

SAMPLE
CONTRACT

Figure 101-1—Illustration of road structure terms.



SUPPLEMENTAL SPECIFICATION

Section 102 – BID, AWARD, AND EXECUTION OF CONTRACT

102 Delete

Delete Section 102 in its entirety.

SUPPLEMENTAL SPECIFICATION

Section 103 – SCOPE OF WORK

103 Delete

Delete all but subsection 103.01 Intent of Contract.

SUPPLEMENTAL SPECIFICATION

Section 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 surfacing material as needed for the project from Blue Jay Pit, T45N, R44W, Sec 2.

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

106.07 Partial and Final Acceptance.

Delete subsection 106.07

SUPPLEMENTAL SPECIFICATION

Section 107- LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

SUPPLEMENTAL SPECIFICATION

Section 108- PROSECUTION AND PROGRESS

Delete Section 108 in its entirety.

SUPPLEMENTAL SPECIFICATION

Section 109- MEASUREMENT AND PAYMENT

109.02 Measurement Terms and Definitions

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

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

number of units SHOWN in the SCHEDULE OF ITEMS may be authorized under any of the following conditions:

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

- (b) Staked Quantities (SQ). These quantities are determined from staked measurements prior to construction.
- (c) Actual Quantities (AQ). These quantities are determined from measurements of completed work.
- (d) Vehicle Quantities (VQ). These quantities are measured or weighed in hauling vehicles.
- (e) Lump Sum Quantities (LSQ). These quantities denote one complete unit of work as required by or described in the contract, including necessary materials, equipment, and labor to complete the job. They will not be measured.

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

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

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

SUPPLEMENTAL SPECIFICATION

Section 203 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

203.01 Work.

Delete and replace with the following:

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

203.05 Disposing of Material.

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

Add the following disposal method:

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

SUPPLEMENTAL SPECIFICATION

Section 204-EXCAVATION AND EMBANKMENT

204.05 Conserved Topsoil.

Delete the subsection.

204.09 Preparing Foundation for Embankment Construction.

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

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

204.10 Embankment Construction.

Add the following:

When an embankment is to be placed across swampy ground and removal of unsuitable material or subgrade treatment is not required, the lower part of the embankment shall be

constructed in a single layer to the minimum depth necessary to support construction equipment.

SAVING
CONTRACT

(c) Individual rock fragments and boulders.

Add the following:

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

204.11 Compaction.

Add the following:

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

Add the following compaction method:

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

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

204.13 Sloping, Shaping, and Finishing.

(a) Sloping.

Add the following:

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

(c) Shaping.

Add the following:

When excavation is measured on a station basis, excavating, placing of embankment, and shaping and compacting the roadway template shall include only those areas where cuts and fills are generally less than five feet in depth as measured from the finished shoulder grade to the top of the adjacent cut or toe of fill. These areas of station grading shall

consist of light dozing or grading of such character that the excavation from backslopes, ditches, and roadbed shall be used in shaping the subgrade, shoulders, and adjacent fills.

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

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

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

Delete section (d) and add the following:

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

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

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

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

Add Table 204-2—Construction Tolerances:

Table 204-2 Construction tolerances.

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

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

204.16

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

Add the following:

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

SUPPLEMENTAL SPECIFICATION

Section 249. – COMPOSITE ROAD CONSTRUCTION

Description

249.01 This work consists of clearing and grubbing, excavation and embankment, and removal of all construction slash including all trees designated for removal. Excavation and embankment includes on site borrow excavation; drainage

excavation; placing all excavated material; and shaping the roadway; including approaches, turnarounds, ditches and drainage dips. Construct the roadway in conformance with the dimensions "shown on the plans" or as staked on the ground.

Construction Requirements

SAMPLE
CONTRACT

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

SAMPLE
CONTRACT

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

SUPPLEMENTAL SPECIFICATION

Section 301- UNTREATED AGGREGATE COURSES

301 Title Change.

Change the title to:

Section 301- AGGREGATE COURSES

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.

301.03 General.

Add the following:

Request approval in writing of the roadbed 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 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 during crushing. Control additive proportions to 0.5 percent dry weight.

The aggregate shall be spread in a uniform layer, with no segregation of size, and to a loose depth that shall have the required thickness when compacted.

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.

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.

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 Compacting.

Delete the first and third paragraphs and add the following:

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

(a) Compaction A. Compact the aggregate by operating spreading and hauling equipment over the full width of each layer of the aggregate.

(b) Compaction B. 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).

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

(d) Compaction D. Compact each layer of aggregate to a density of at least 95 percent of the maximum density, as determined by AASHTO T 180, method C or D.

(e) Compaction E. Operate rollers and compact as specified in Subsection 204.11(a).

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 thickness of the compacted nominal aggregate shall not vary more than ½ inch for aggregates with a maximum particle size of 1 inch or less, nor more than 1 inch for aggregates with a nominal maximum particle size greater than 1 inch from the thickness SHOWN ON THE DRAWINGS. The compacted thickness shall not be consistently above or below the specified thickness.

301.09 Measurement.

Delete:

Measure aggregate by the cubic yard in the hauling vehicle and substitute with the following:

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

Payment

When materials are produced and furnished by the Forest Service, the note "Government furnished materials" will be added to the description of the pay item

Section 602- CULVERTS AND DRAINS

Description

602.01 Delete 602.01 in its entirety and substitute with the following:

602.01 This work shall consist of furnishing and installing, or installing only, metal pipe and Corrugated High Density Polyethylene (HDPE) with smooth interior and pipe appurtenances, including all bedding and backfilling required to complete the work. The term metal refers to aluminum and steel.

Material

602.02 Add: Corrugated High Density Polyethylene Drainage Pipe shall meet the requirements of AASHTO M252, ASTM F405, and ASTM 667 and be non-perforated. Advance Drainage systems N – 12 pipe meets these requirements.

602.03 General.

Add the following:

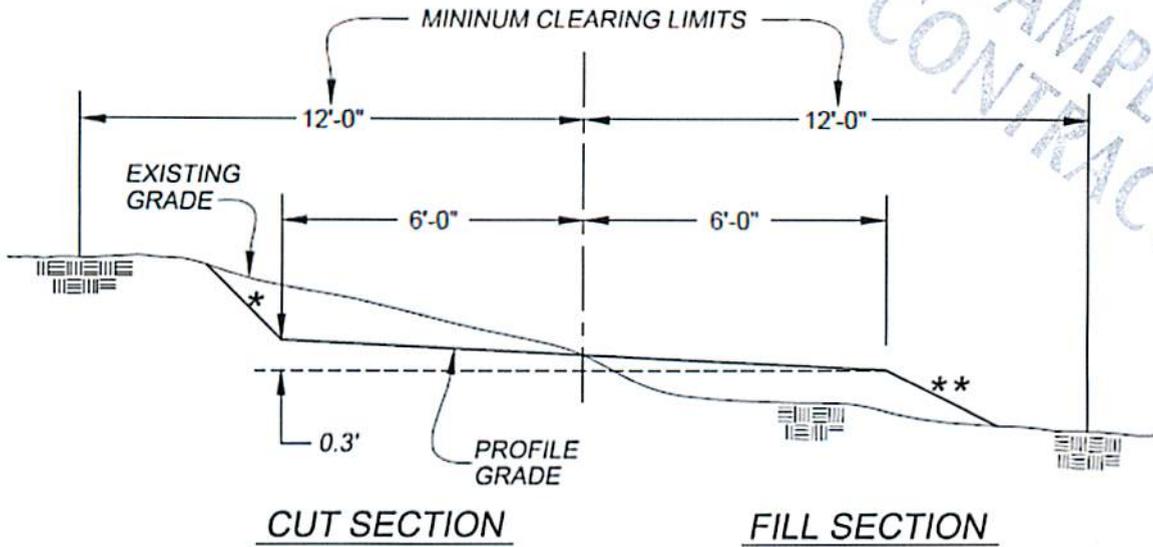
Ensure that the final installed alignment of all pipe allows no reverse grades, and does not permit horizontal and vertical alignments to vary from a straight line drawn from center of inlet to center of outlet by more than 2 percent of pipe center length or 1.0 foot, whichever is less.

Backfill material shall be readily compactible material free of frozen lumps, chunks of highly plastic clay (Plasticity Index greater than 10), or other objectional material. Rocks larger than 3 inches in greatest dimension shall not be used within 1 foot of the pipe.

Payment

When materials are produced and furnished by the Forest Service, the note "Government furnished materials" will be added to the description of the pay item.

SAMPLE
CONTRACT

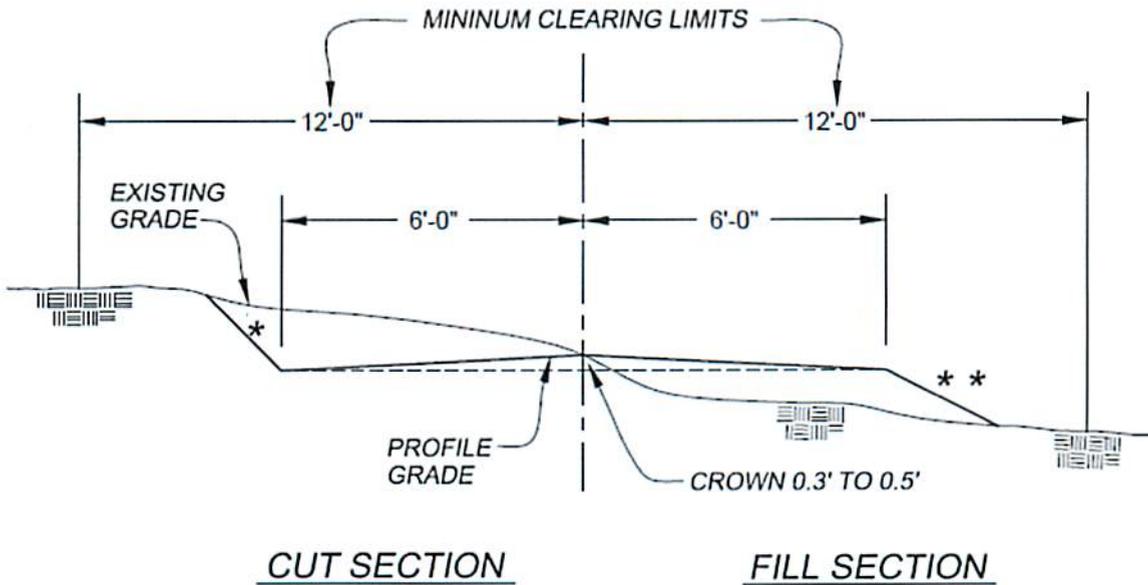


TYPICAL OUTSLOPE DETAIL

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

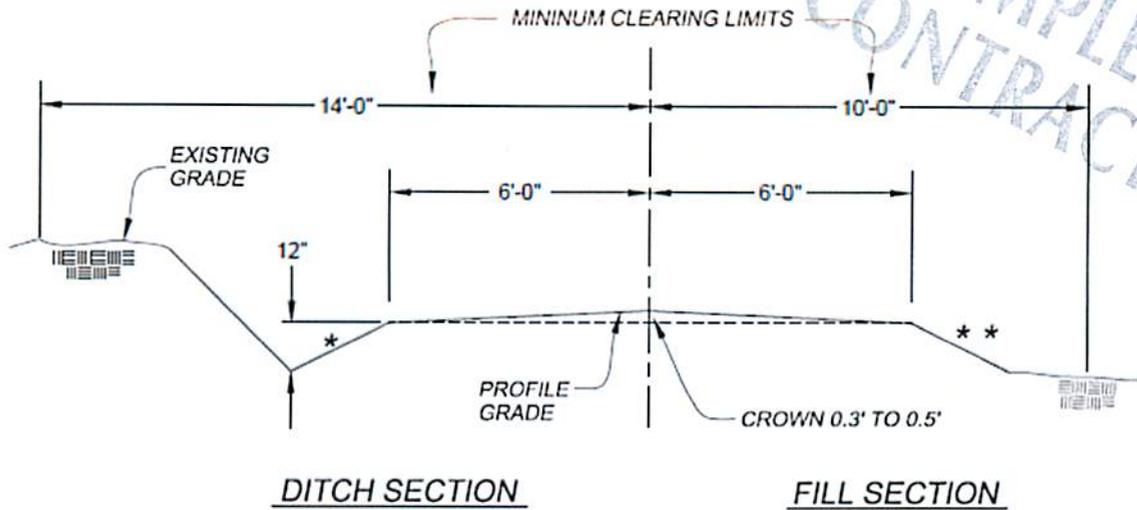
**FILL SLOPES MAY VARY FROM 1-1/2H:1V TO 3H:1V



TYPICAL CROSS SECTION CROWN NO DITCHES

NOT TO SCALE

SAMPLE
CONTRACT



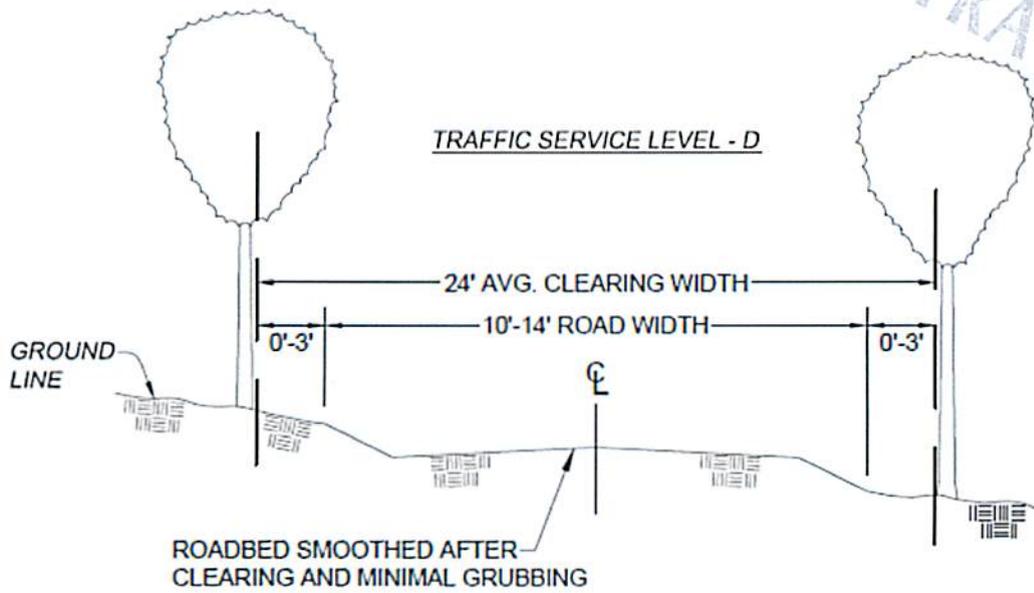
*BACKSLOPE AND DITCH SLOPES MAY VARY FROM
1H:1V TO 2H:1V WHEN CUTS ARE UNDER 2 FT.
CUTS OVER 2 FT. SHALL HAVE SLOPES OF 2H:1V

**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

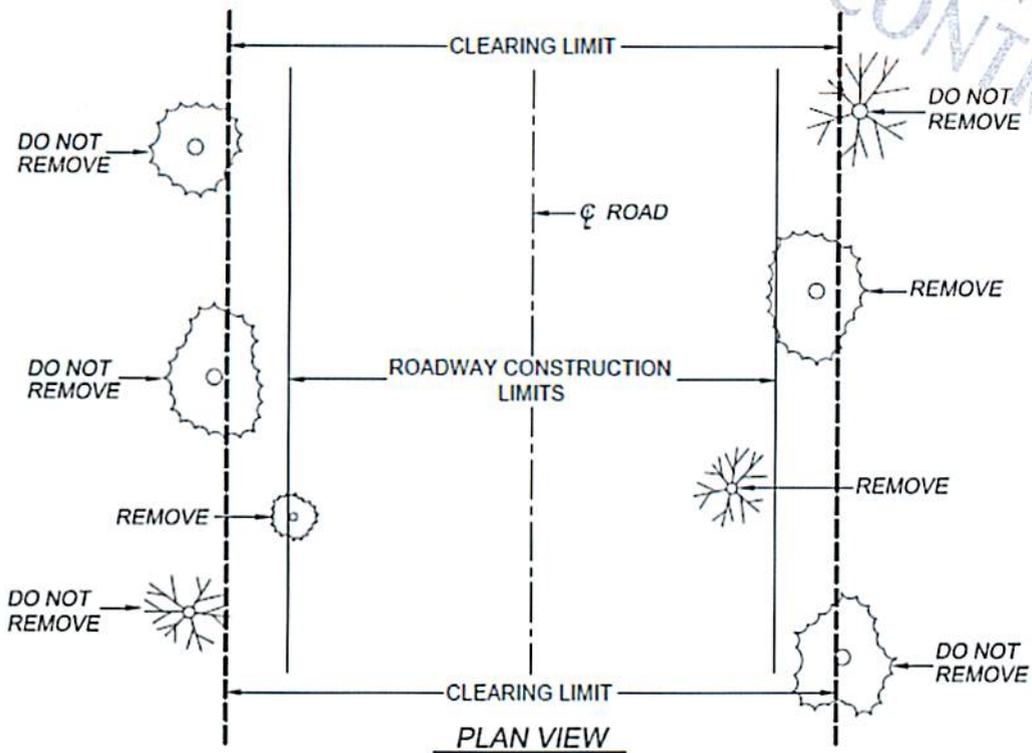
SAMPLE
CONTRACT



CROSS SECTION VIEW

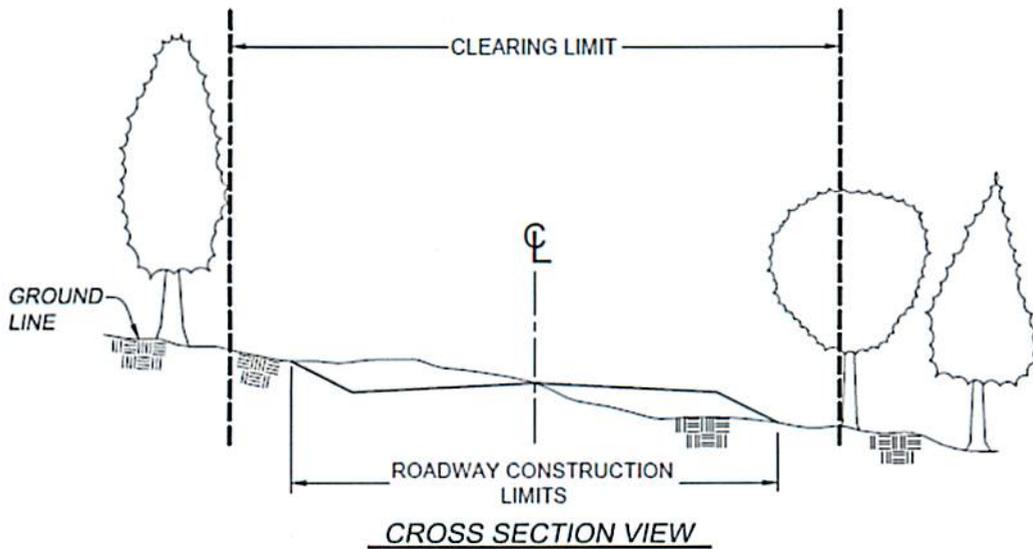
WINTER ONLY ROAD STANDARD
NOT TO SCALE

SAMPLE
CONTRACT



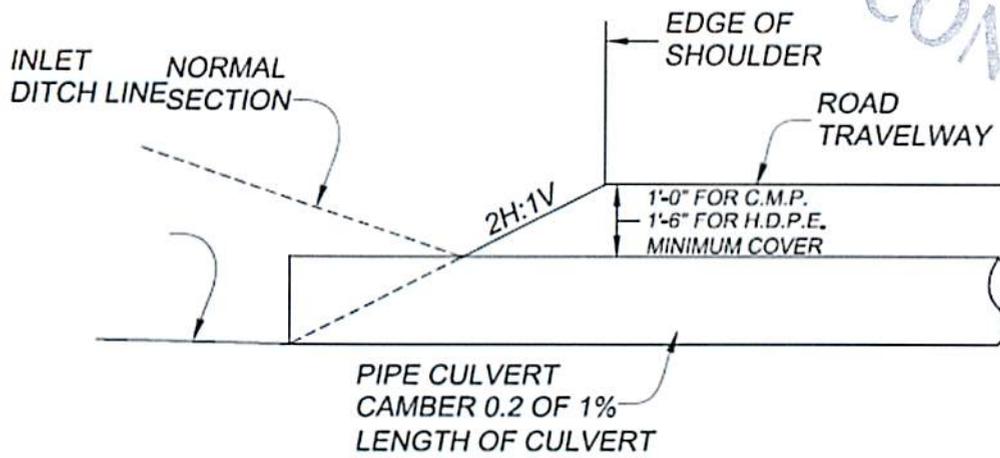
NOTE: TREES ON THE CLEARING LIMIT LINE ARE TO REMAIN UNLESS OTHERWISE DESIGNATED BY THE ENGINEER.

NOTE: YELLOW PAINT INDICATES TREES TO BE REMOVED.

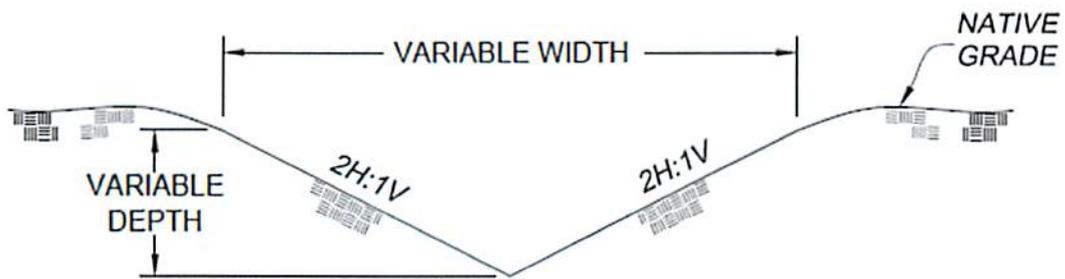


CONSTRUCTION STAKING
NOT TO SCALE

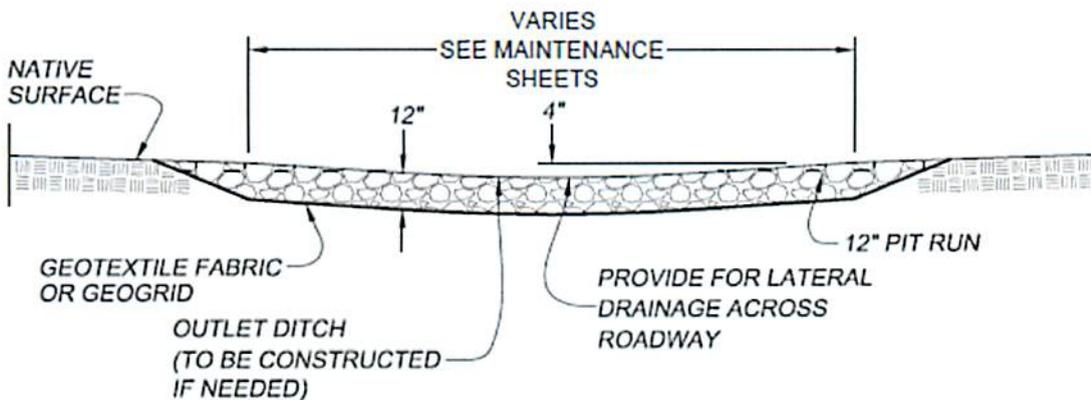
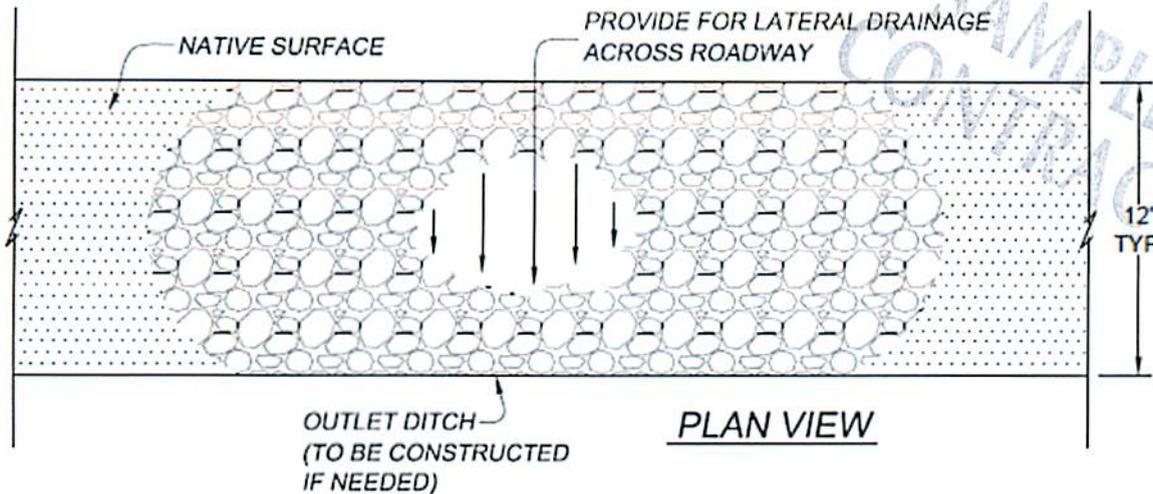
SAMPLE
CONTRACT



TYPICAL DITCH SECTION AT CULVERT INLET
NOT TO SCALE



TYPICAL INLET AND OUTLET DITCH SECTION
NOT TO SCALE



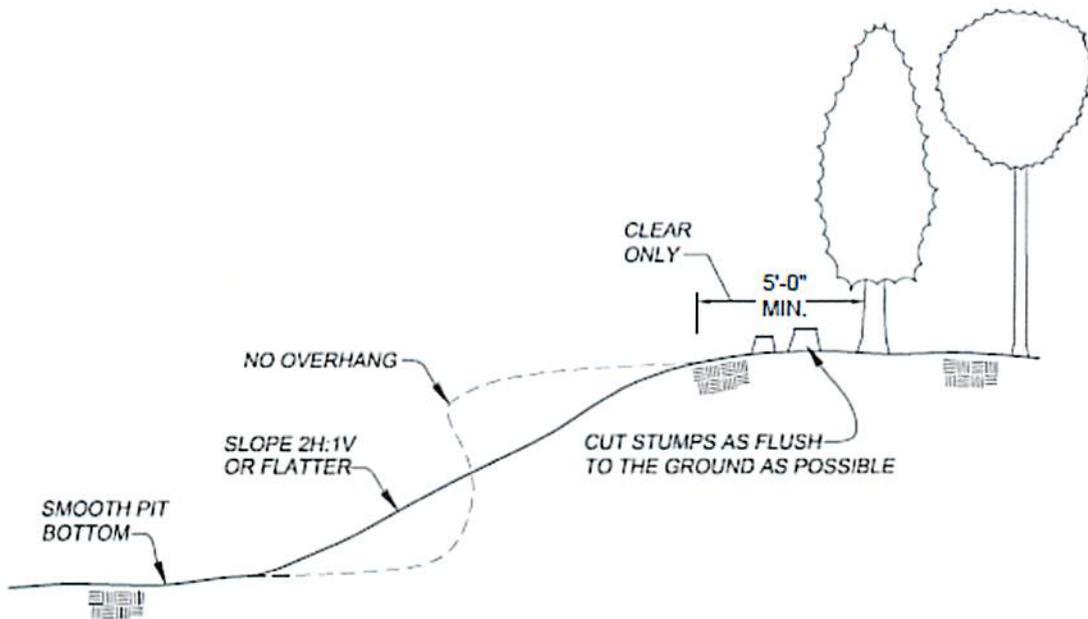
CROSS SECTION VIEW

NOTE:
 HARDENED DIPS WILL BE EXCAVATED 16" DEEP
 AND BACKFILLED WITH 12" OF PIT RUN. GEOTEXTILE
 OR GEOGRID SHALL BE PLACED UNDER PIT RUN
 MATERIAL AS DIRECTED BY THE FOREST SERVICE.

TYPICAL HARDENED DIP

NOT TO SCALE

SAMPLE
CONTRACT

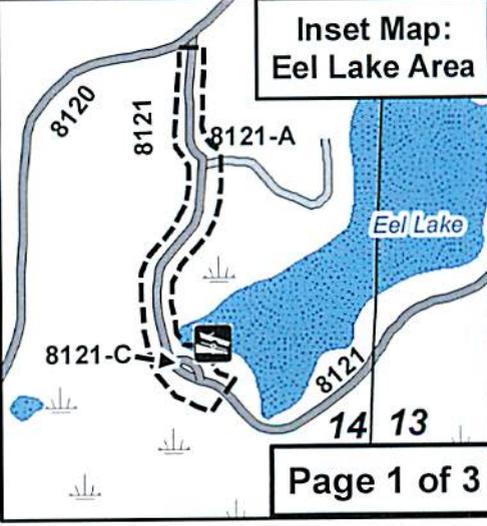
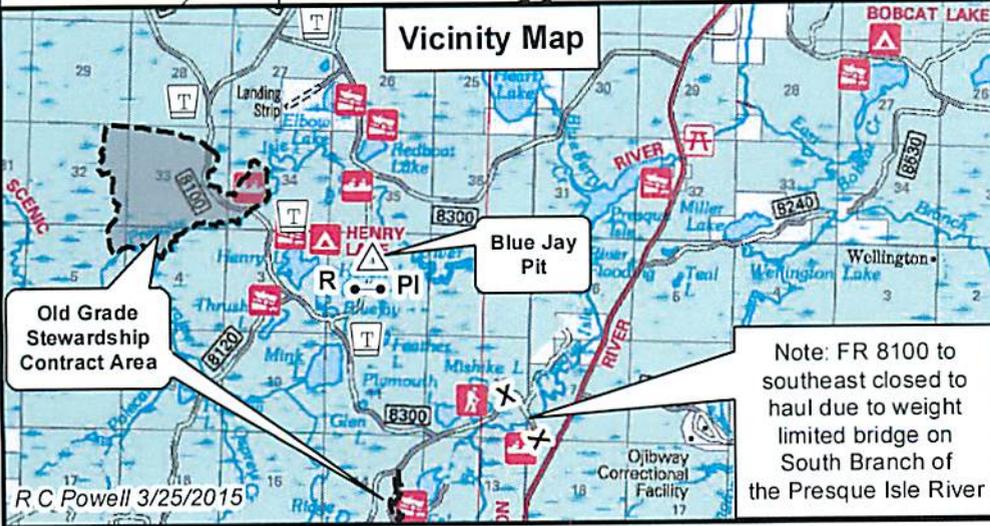
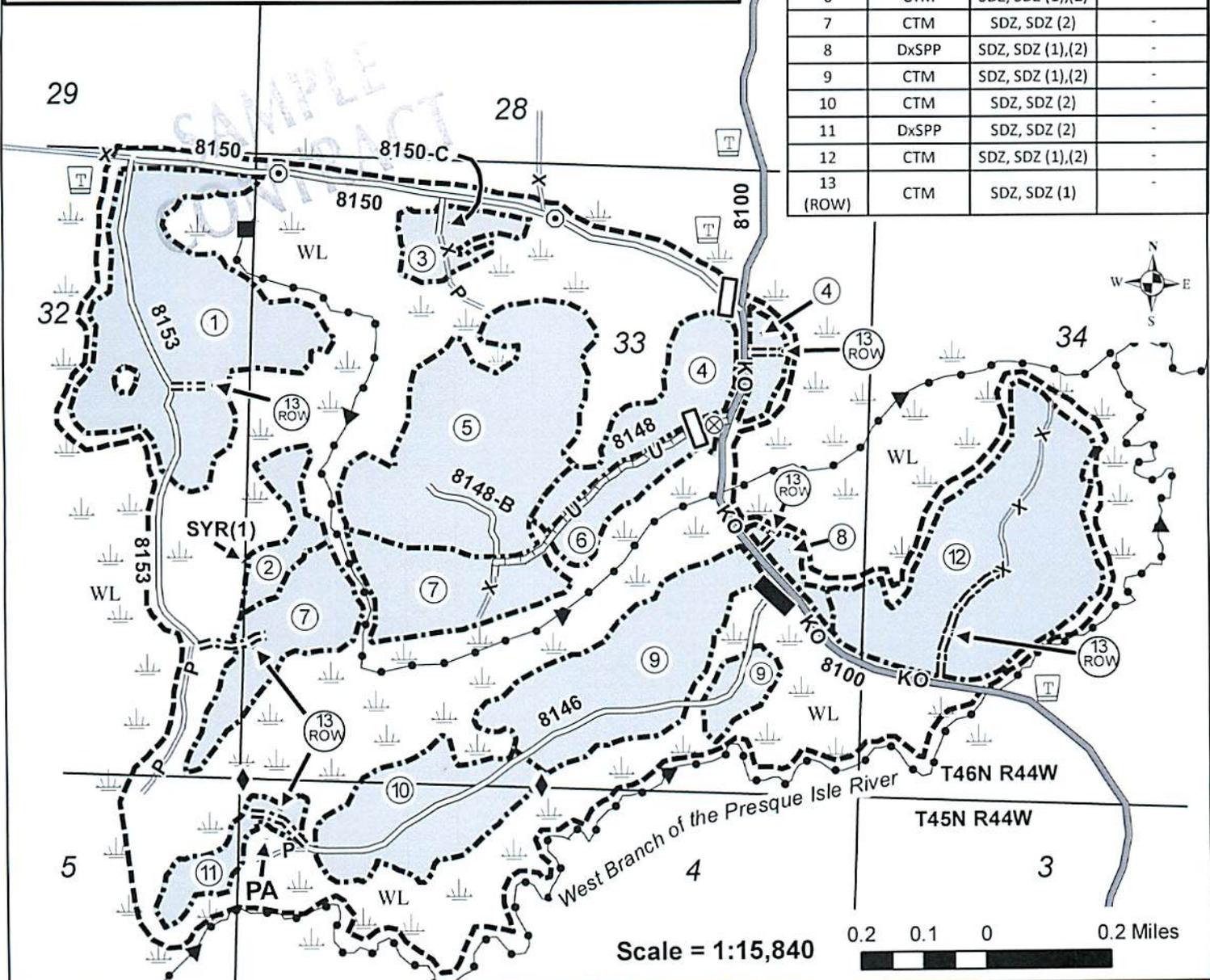


NOTE: TOPS, STUMPS AND TRUNKS SHALL BE DISPOSED OF AS DIRECTED BY THE ENGINEER. STUMPS SHALL BE SEVERED FROM ALL TREES. ALL TIMBER SHALL REMAIN PROPERTY OF THE GOVERNMENT. OVERSIZED ROCK SHALL BE DISPOSED OF IN EXISTING PILES OR AS DIRECTED BY THE ENGINEER. SMOOTH PIT BOTTOM TO REDUCE THE COLLECTION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

BORROW PIT CLEAN UP

CONTRACT AREA MAP
Old Grade Stewardship Sale
Bessemer Ranger District, Ottawa National Forest
T45N R44W, Secs. 4, 5 & 14; T46N R44W, Secs. 32, 33 & 34
Gogebic County, MI Compartments 173, 205, 207 & 214
Gross Acres: 845 Net Acres: 403

Payment Unit	Timber Designation	Slash Treatment	Skid & Yard Requirement
1	CTM	SDZ, SDZ (2)	-
2	DxSPP	SDZ, SDZ (2)	SYR(1)
3	CTM	SDZ, SDZ (2)	-
4	CTM	SDZ, SDZ (1),(2)	-
5	CTM	SDZ, SDZ (2)	-
6	CTM	SDZ, SDZ (1),(2)	-
7	CTM	SDZ, SDZ (2)	-
8	DxSPP	SDZ, SDZ (1),(2)	-
9	CTM	SDZ, SDZ (1),(2)	-
10	CTM	SDZ, SDZ (2)	-
11	DxSPP	SDZ, SDZ (2)	-
12	CTM	SDZ, SDZ (1),(2)	-
13 (ROW)	CTM	SDZ, SDZ (1)	-

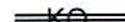


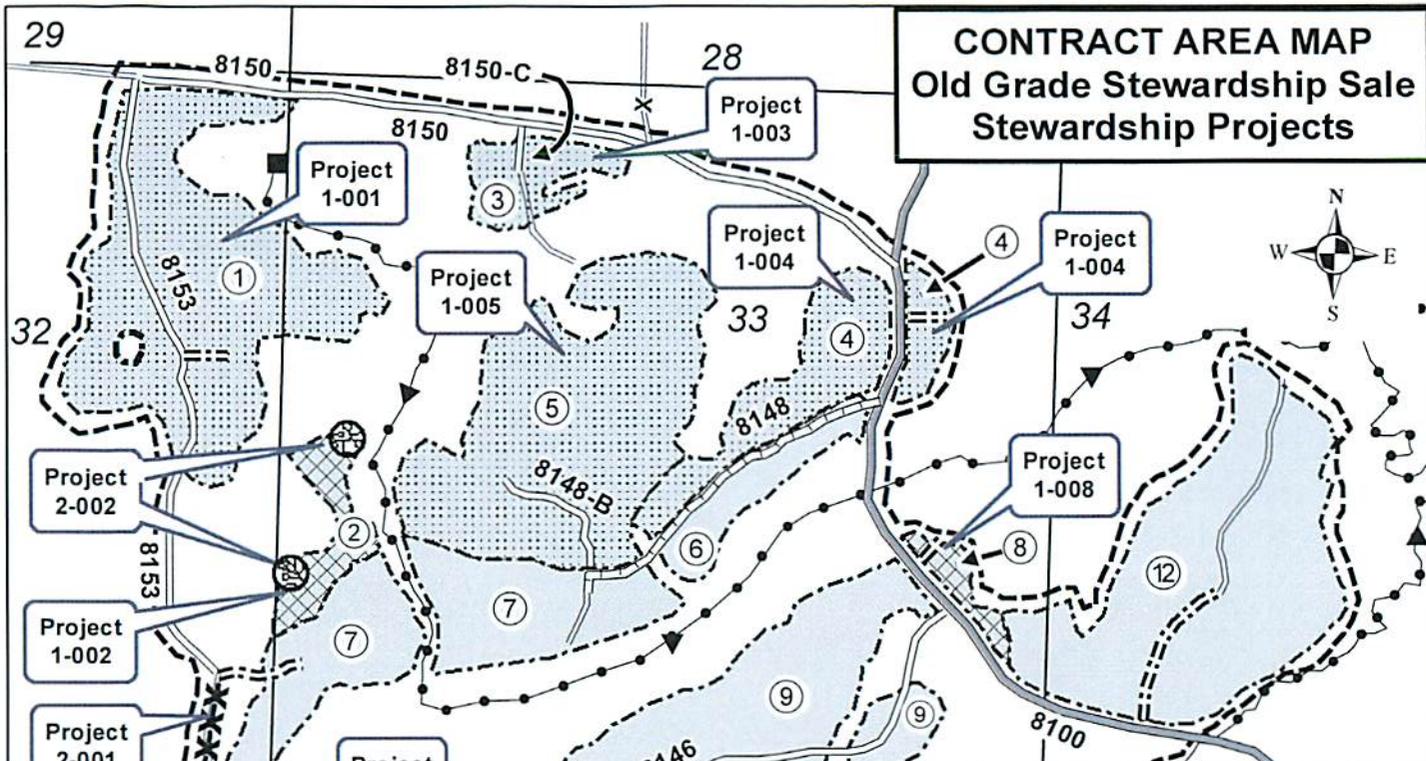
Note: FR 8100 to southeast closed to haul due to weight limited bridge on South Branch of the Presque Isle River

CONTRACT AREA MAP - LEGEND

Old Grade Stewardship Sale

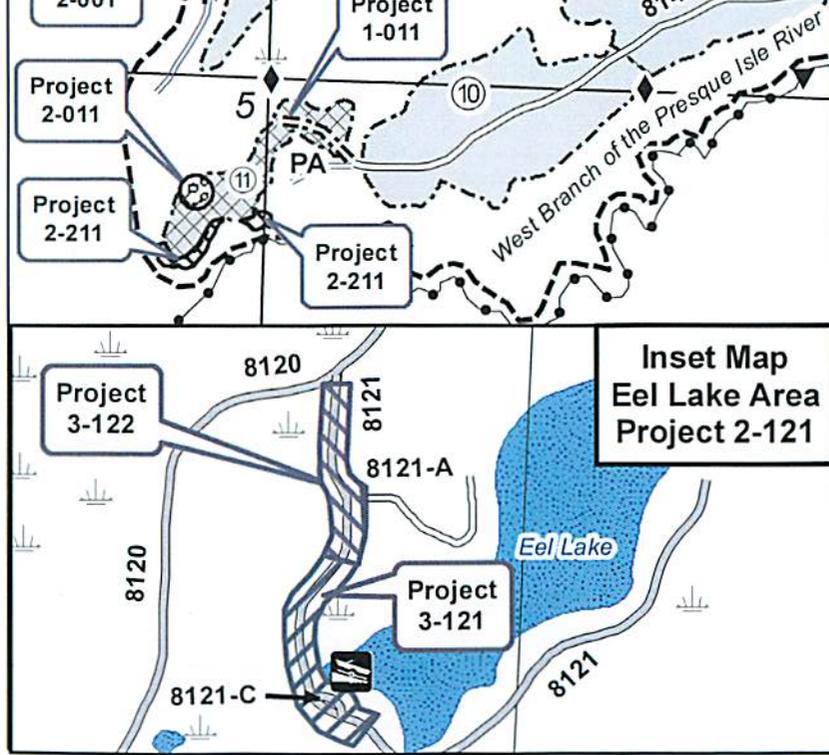
SAMPLE
CONTRACT

	Sale Area Boundary, BT.1
	Payment Unit Boundary, BT.1
	Payment Unit 13 – Road Clearing, Temporary Roads, No Payment Unit Boundary, BT.1
	Payment Unit Number, BT.1
DxSPP	Designation by Species and Diameter, KT-CT.3.5.2#
CTM	Cut Tree Marked Prior to Advertisement, CT.3.5, KT-CT.3.5.5#, GT.4.1.2
PA	Protected Area, GT.2.4
	Existing Transportation System Road, FT.1
	Existing Road, Hauling Prohibited, FT.1.2, KT-FT.1.2#
	Existing Road, Use Prohibited, FT.1.2, KT-FT.1.2#
	Existing Road, Use Restricted, FT.1.2, KT-FT.1.2#
	Existing Road, Unsuitable for hauling prior to agreed reconstruction, FT.1.2, KT-FT.1.2#
	Keep Open, Existing Transportation System Road, FR 8100, FT.1.2, KT-FT.1.2#, FT.4
	Specified Road Reconstruction, AT.7, AT.8, FT.2, GT.2.2, GT.2.2.2, GT.3.6.1, Schedule of Items
	Specified Drainage Structure, Purchaser Remove/Furnish/Install Culvert (1), FR 8148, AT.7, AT.8, FT.2, GT.2.2, GT.2.2.2, GT.3.6.1, Schedule of Items
	Maintenance Drainage Structure, Purchaser Remove/Furnish/Install Culverts (2), FR 8150, KT-FT.3.1#, T-8340
	Contractor Install Berm FR 8146, FT.3, KT-FT.3.1#, T-8620
	Contractor Remove/Install Berms FRs 8148 and 8150, FT.3, KT-FT.3.1#, T-8620
	Protect Improvement (Gate – FR 8135, Blue Jay Pit Road), GT.2.2, KT-FT.1.2#
	Streamcourse Protection, Block Marks Upper Limit, Arrow Indicates Flow Direction, GT.5
SYR(1)	Skidding and Yarding Requirements, Payment Unit 2, KT-GT.4.2#
WL 	Wetland Protection, GT.6.2, KT-GT.6.2#
	Lakes and Ponds
SDZ	Slash Disposal, GT.7, KT-GT.7#
SDZ (1)	Slash Disposal Area, GT.7, KT-GT.7#
SDZ (2)	Slash Disposal Area, GT.7, KT-GT.7#
	Safety– Purchaser to Provide and Maintain Traffic Control Signs, GT.3.3
	Protect Known Survey Monuments, GT.2.3
	Material Source, Pit-Run Gravel, KT-FT.2.2.1#, (Blue Jay Pit, T45N-R44W, Section 2)

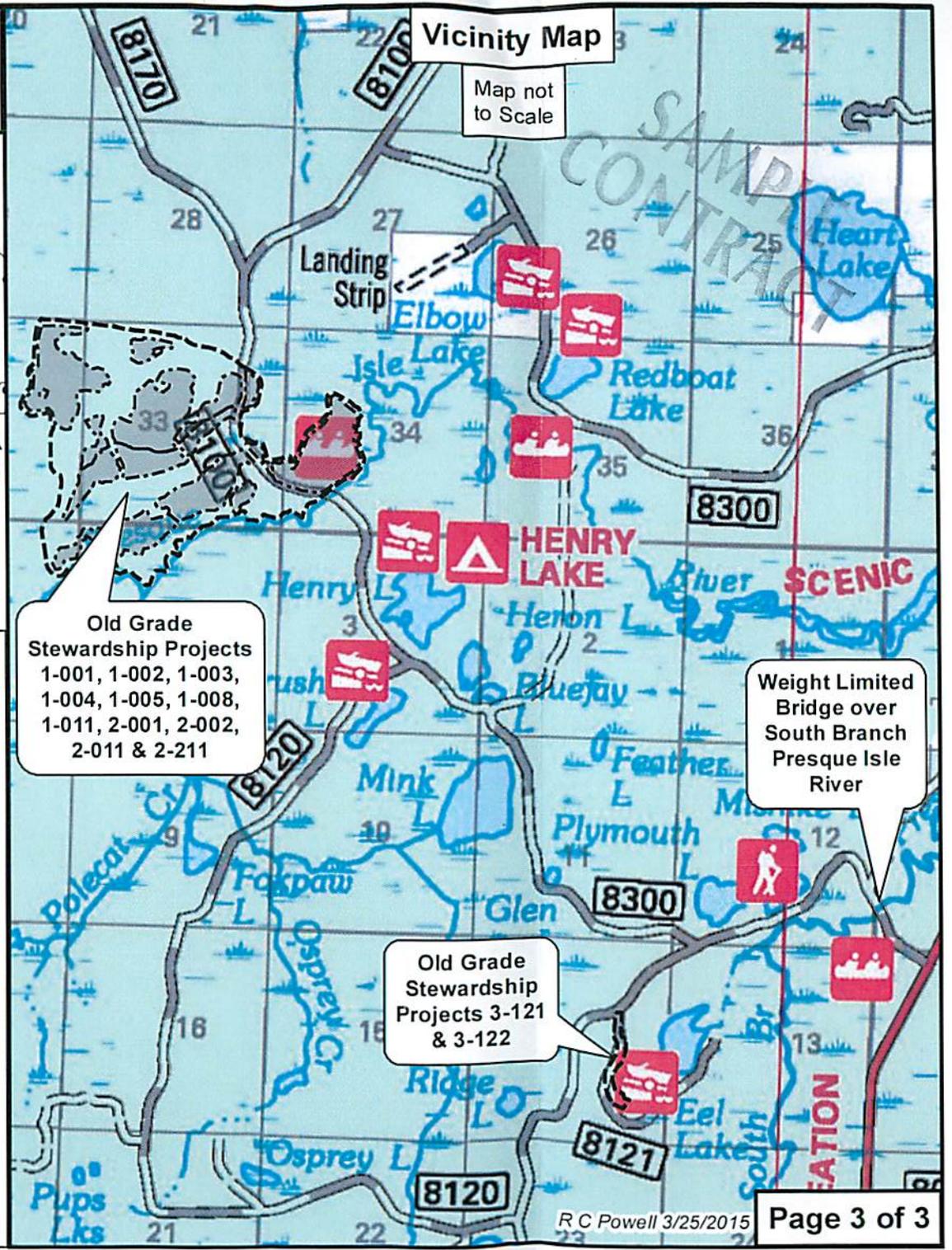


CONTRACT AREA MAP
Old Grade Stewardship Sale
Stewardship Projects

- Mandatory Stewardship Projects**
- Aspen Regeneration Site Preparation
 - 1-002 Payment Unit 2, 9 acres
 - 1-008 Payment Unit 8, 5 acres
 - 1-011 Payment Unit 11, 10 acres
 - Road Decommissioning
 - 2-001, FR 8153
 - Wildlife Habitat Brushpile Construction
 - 2-002 Payment Unit 2, 2 brushpiles
 - 2-011 Payment Unit 11, 1 brushpile
- Optional Stewardship Projects**
- Hardwood Regeneration Gap Cleaning
 - 1-001, Payment Unit 1, 67 acres
 - 1-003, Payment Unit 3, 10 acres
 - 1-004, Payment Unit 4, 29 acres
 - 1-005, Payment Unit 5, 66 acres
 - Erosion Control Road Maintenance
 - Project 3-121, FR 8121 Road Gravelling
 - Project 3-122, FR 8121 Side Slope Reduction
 - Non-commercial Aspen Regen Site Prep
 - 2-211, Adjacent to Payment Unit 11, 1.3 acres



Inset Map
Eel Lake Area
Project 2-121



Vicinity Map

Map not to Scale

Old Grade Stewardship Projects
 1-001, 1-002, 1-003, 1-004, 1-005, 1-008, 1-011, 2-001, 2-002, 2-011 & 2-211

Old Grade Stewardship Projects 3-121 & 3-122

Weight Limited Bridge over South Branch Presque Isle River