STANDFORDVILLE WEST

IRTC

SCHEDULE OF ITEMS
AND
SPECIFICATIONS

SCHEDULE OF ITEMS:

Item #	Description	Unit of Measure	Quantity	Unit Price $	Total $
Mandatory Work					
1	Culvert Replacement (FS-1058)	Each	1		
2	Site Prep	Acres	28		
3	Tree Planting	Acres	28		
4	Planting Release	Acres	28		
Optional Work					
5	Pre-Commercial Thinning	Acres	28		
6	Gate Placement	Each	7		
7	Wildlife Habitat Improvement	Acres	50		

Item 01 – 1058 Culvert Replacement

GENERAL SPECIFICATIONS

The contractor shall provide all personnel, equipment, tools, supervision, and other items and incidental services necessary to perform the culvert replacement. The location of the culvert is located on Forest Service 1058 road.

CHATTAHOOCHEE–OCONEE NATIONAL FOREST

OCONEE R. D.
Big Cedar
F. S. 1058
Traffic Service Level C

Reconstruct/Pipe replacement

INDEX

D.W Bye — 8/3/2015
FOREST ENGINEER – ROADS — DATE

Jon Cunningham — 8/3/2015
ER STAFF OFFICER — DATE

AANS

[signature] — 7/30/15
DISTRICT RANGER — DATE

Betty M Jewell — 8/3/15
FOREST SUPERVISOR — DATE

CHATTAHOOCHEE – OCONEE NATIONAL FOREST

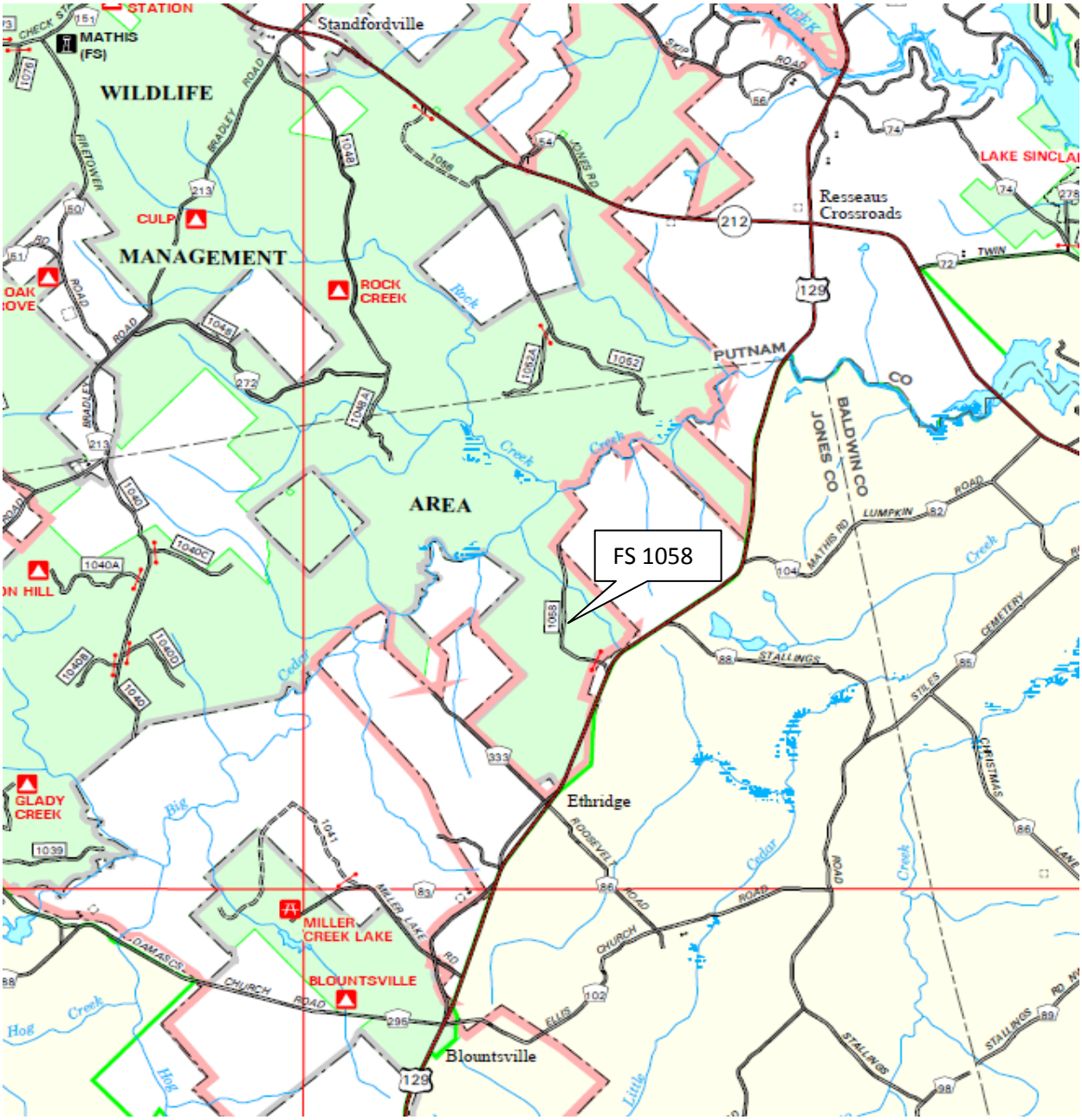
OCONEE RANGER DISTRICT

GLADESVILLE

STEWARDSHIP AGREEMENT

BIG CEDAR

FS ROAD 1058



PART I - SCHEDULE OF ITEMS

SECTION B – SERVICES AND PRICES

Big Cedar

FS 1058

Pipe Replacement

Oconee
Chatt-Oconee
Jones

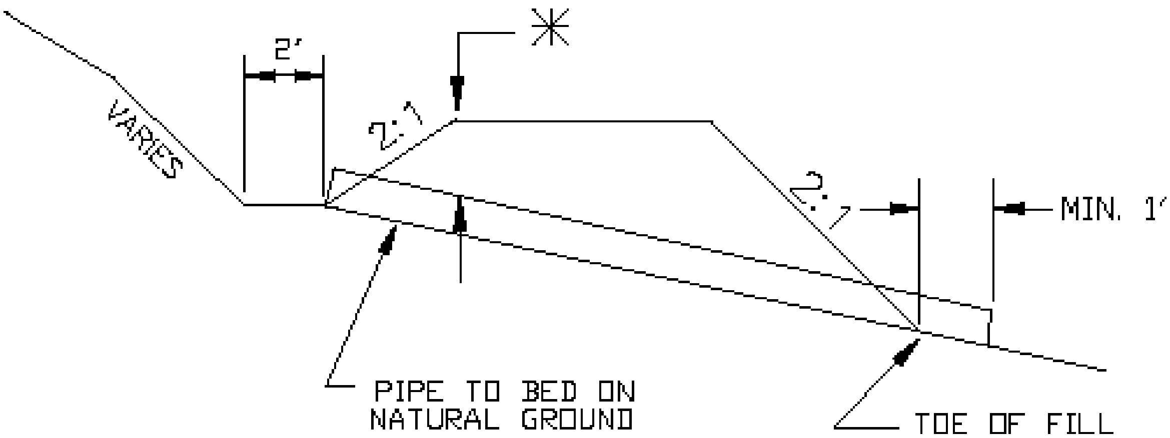
B- 1 - SCHEDULE OF ITEMS

ITEM NO.	DESCRIPTION	PAY UNIT	EST. QTY.	UNIT PRICE	TOTAL PRICE
21250	Linear Grading- Stations	Station	4	$_____	$_____
25102	Placed riprap, class __III____	Ton	80	$_____	$_____
30101	Aggregate base, grading __#57__, compaction method ___a__	Ton	40	$_____	$_____
30115	Aggregate surface course, Type __#4_____, compaction method __a_	Ton	60	$_____	$_____
30806	Bedding and backfill aggregate, GAB compaction method _____a_	Ton	100	$_____	$_____
60211	48 Inch 10/10 Polymer Corrugated Steel Pipe 16 gauge Thickness	Foot	40	$_____	$_____

B-2 - NOTE: Payment for bond premiums in accordance with Clause 52.232-5, Payments under Fixed-Price Construction Contracts, shall not be in addition to the contract price. Include bond payments under 151.01 Mobilization.

Payment will be made on actual work performed as described in FP-03 109.01 unless otherwise noted.

* 15" MINIMUM OR 1/3 OF THE DIAMETER,
WHICHEVER IS GREATER



MAINTAIN EXISTING ROAD TEMPLATE, OUT SLOPE OR INSLOPE,
UNLESS OTHERWISE STATED IN THE DESCRIPTION OF WORK.

NOT TO SCALE

# 13	CULVERT DETAILS
SHEET TITLE:	
CHECKED BY:	
DRAWN BY:	
PROJECT NO:	
MARK / DATE / DESCRIPTION	

PROJECT:

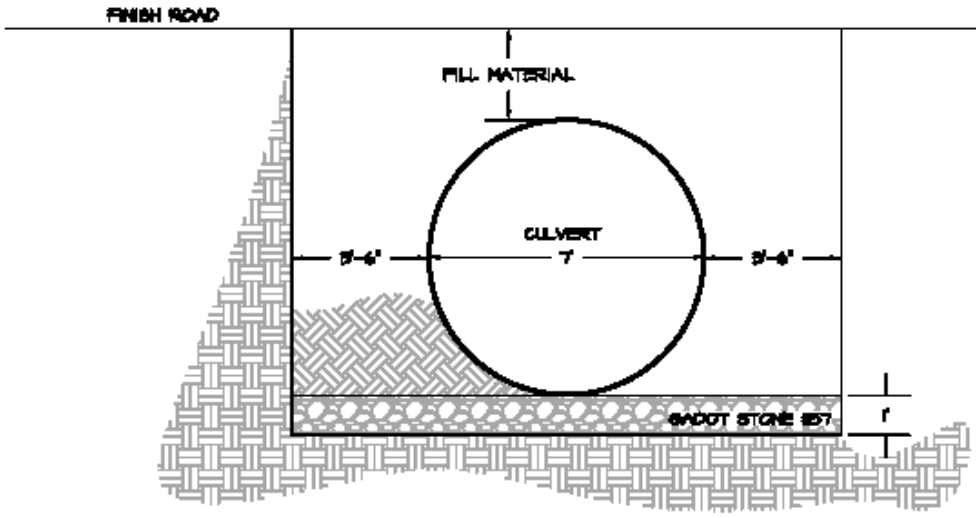
LOCATION: *OCONEE NF*

FOREST: *CHATTHOOCHEE-OCONEE NFS*

FOREST ENGINEER

DISTRICT RANGER

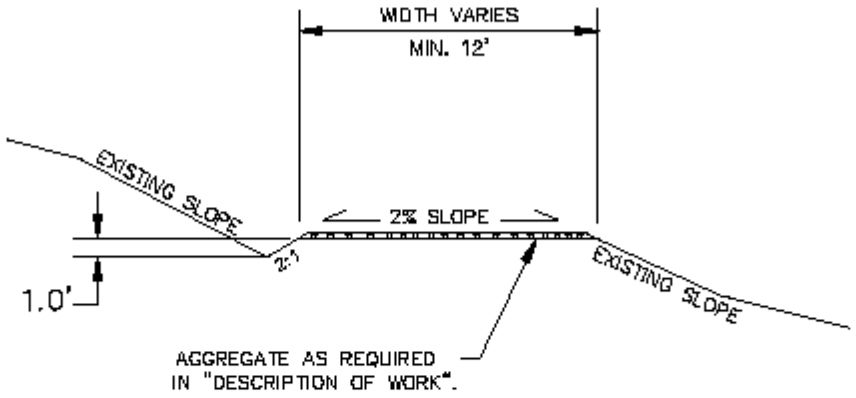
FOREST SUPERVISOR

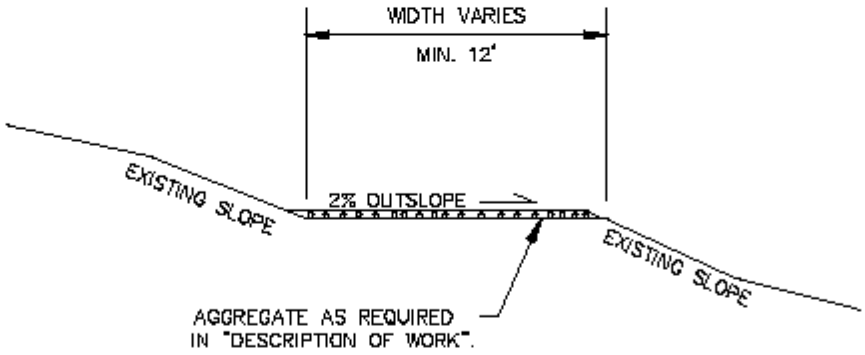


U.S. FOREST SERVICE
SOUTHERN REGION

CULVERT# REPLACEMENT
OCONEE RANGER DISTRICT
CHATTAHOOCHEE-OCONEE NAT. FOREST

Sheet Title
24" CULVERT REPLACEMENT DETAILS





NOT TO SCALE

PROJECT: OCONEE ROADS
LOCATION: OCONEE NF
FOREST: CHATTHOOCHEE-OCONEE NFS

Forest Service
Specified Road Reconstruction

F.S. Road 1058

00+00	Begin project in accordance with typical sections and FS Specifications. Begin placement of 2"#4 stone
2+00	Remove existing pipe and replace with new 1010 Polymer Corrugated Steel Pipe 48" x 40' CSP. #57 stone will be used as bedding. Place 80 tons Class III Rip Rap inlet and outlet
4+00	Stop placement of 3" #4 stone.

GENERAL NOTES

1. The basic road width for the reconstruction of this road is 14 feet. Basic ROW clearing is 20 feet. All slash (new and old) within the clearing limits will be scatter outside of clearing limits.
2. All disturbed soils shall be seeded and mulched. Mulch will not be required where aggregate is placed.
3. 10/10 Polymer Coated Corrugated Steel Pipe will meet M245 and M246.
4. All pipe removed will be removed from Forest Service property
5. Road will remain closed to the public during construction.
6. Clearing and seeding is minor and should be included in Linear Grading.

Table of Contents

Preface

Preface_wo_03_15_2004_m

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.

101 - Terms, Format, and Definitions

101.01_nat_us_01_22_2009

101.01 Meaning of Terms

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

101.03_nat_us_06_16_2006

101.03 Abbreviations.

Add the following to (a) Acronyms:

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

.

Add the following to (b) SI symbols:

mp	Milepost
ppm	Part Per Million

101.04_nat_us_03_29_2007

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

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

Culvert--No definition.

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

Add the following:

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

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

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

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

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

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

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

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

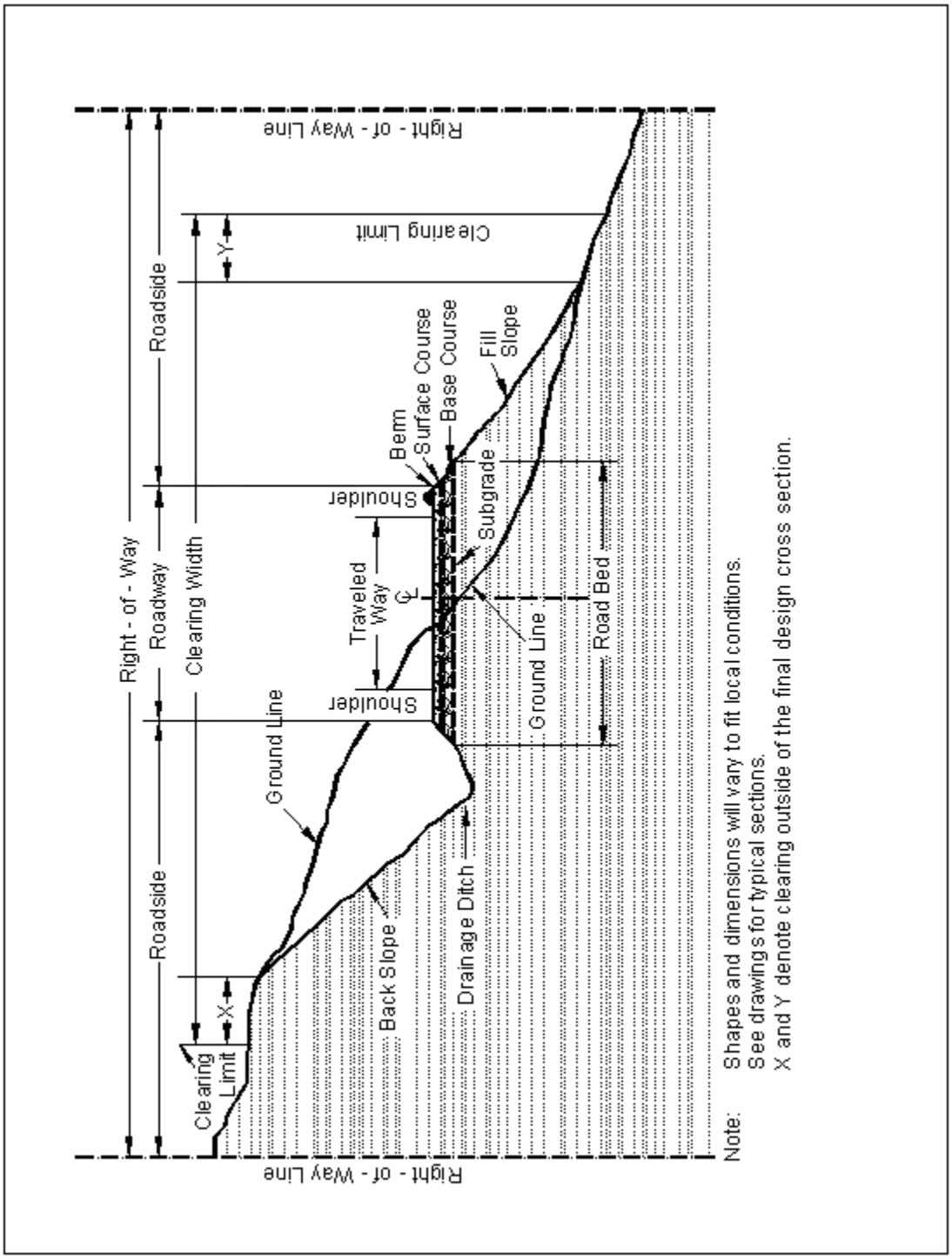
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

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

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

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

Figure 101-1—Illustration of road structure terms.



102 - Bid, Award, and Execution of Contract

102.00_nat_us_02_16_2005

102 Bid, Award, and Execution of Contract

Delete Section 102 in its entirety.

103 - Scope of Work

103.00_nat_us_02_16_2005

Deletions

Delete all but subsection 103.01 Intent of Contract.

104 - Control of Work

104.00_nat_us_06_16_2006

Deletions

Delete Sections 104.01, 104.02, and 104.04.

104.06_nat_us_02_17_2005

Add the following subsection:

104.06 Use of Roads by Contractor

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

105 - Control of Material

105.02_nat_us_01_18_2007

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.

105.05_nat_us_05_12_2004

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.

106 - Acceptance of Work

106.07_nat_us_05_11_2004

106.07 Delete

Delete subsection 106.07.

107 - Legal Relations and Responsibility to the Public

107.05_nat_us_05_11_2004

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.06_nat_us_06_16_2006

107.06 Contractor's Responsibility for Work.

Delete the following from the first paragraph.

"except as provided in Subsection 106.07".

107.09_nat_us_06_16_2006

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

107.10_nat_us_06_16_2006

107.10 Environmental Protection.

Add the following:

Design and locate equipment repair shops, stationary refueling sites, or other facilities to minimize the potential and impacts of hazardous material spills on Government land.

Before beginning any work, submit a Hazardous Spill Plan. List actions to be taken in the event of a spill. Incorporate preventive measures to be taken, such as the location of mobile refueling facilities, storage and handling of hazardous materials, and similar information. Immediately notify the CO of all hazardous material spills. Provide a written narrative report form no later than 24 hours after the initial report and include the following:

- Description of the item spilled (including identity, quantity, manifest number, and other identifying information).
- Whether amount spilled is EPA or state reportable, and if so whether it was reported, and to whom.
- Exact time and location of spill including a description of the area involved.
- Containment procedures.
- Summary of any communications the Contractor had with news media, Federal, state and local regulatory agencies and officials, or Forest Service officials.
- Description of clean-up procedures employed or to be employed at the site including final disposition and disposal location of spill residue.

When available provide copies of all spill related clean up and closure documentation and correspondence from regulatory agencies.

The Contractor is solely responsible for all spills or leaks that occur during the performance of this contract. Clean up spills or leaks to the satisfaction of the CO and in a manner that complies with Federal, state, and local laws and regulations.

108 - Prosecution and Progress

108.00_nat_us_02_16_2005

108 Delete.

Delete Section 108 in its entirety.

109 - Measurement and Payment

109.00_nat_us_02_17_2005

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

109.02_nat_us_06_16_2006

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Add the following:

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

Change the following:

"(b) Cubic yard" to "(c) Cubic yard".

Add the following definition:

(p) Thousand Board Feet (Mbf). 1,000 board feet based on nominal widths, thickness, and extreme usable length of each piece of lumber or timber actually incorporated in the job. For glued laminated timber, 1,000 board feet based on actual width, thickness, and length of each piece actually incorporated in the job.

155 - Schedules for Construction Contracts

155.00_nat_us_05_11_2004

155 Delete.

Delete Section 155 in its entirety.

204 - Excavation and Embankment

204.00_nat_us_03_26_2009

Replace Section 204 in its entirety with the following:

Description

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

204.02 Definitions.

(a) Excavation. Excavation consists of the following:

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

(2) Subexcavation. Material excavated from below subgrade elevation in cut sections or from below the original groundline in embankment sections. Subexcavation does not include the work required by Subsections 204.05, 204.06(b), and 204.06(c).

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

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

(1) Preparing foundation for embankment;
(2) Constructing roadway embankments;
(3) Benching for side-hill embankments;
(4) Constructing dikes, ramps, mounds, and berms; and

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

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

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

Material

204.03 Conform to the following Subsections:

Backfill material	704.03
Select borrow	704.07
Select topping	704.08
Topping	704.05
Unclassified borrow	704.06
Water	725.01

Construction Requirements

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

204.05 Reserved.

204.06 Roadway Excavation. Excavate as follows:

(a) General. Do not disturb material and vegetation outside the construction limits.
Incorporate only suitable material into embankments. Replace any shortage of suitable material caused by premature disposal of roadway excavation. Dispose of unsuitable or excess excavation material according to Subsection 204.14.

At the end of each day's operations, shape to drain and compact the work area to a uniform cross-section. Eliminate all ruts and low spots that could hold water.

Retrieve material deposited outside of the clearing limits as directed by the CO. Place unsuitable material in designated areas.

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

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

(d) Pioneer Roads. Road pioneering, slash disposal, and grubbing of stumps may proceed concurrently with excavation. Conduct excavation and placement operations so material to be treated under Section 201 will not be incorporated into the roadway unless specified in the slash treatment method. Maintain drainage during pioneering operations.

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

204.07 Subexcavation. Excavate material to the limits designated by the CO. Take cross-sections according to Section 152. Prevent unsuitable material from becoming mixed with the backfill. Dispose of unsuitable material according to Subsection 204.14. Backfill the subexcavation with topping, or other suitable material. Compact the material according to Subsection 204.11.

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

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

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

(a) Embankment 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.

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

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

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

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

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

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

Compact embankment side slopes flatter than 1V:1.75H with a tamping type roller or by walking with a dozer. For slopes 1V:1.75H or steeper, compact the slopes as construction of the embankment progresses.

Where placing embankment on one side of abutments, wing walls, piers, or culvert headwalls, compact the material using methods that prevent excessive pressure against the structure.

Where placing embankment material on both sides of a concrete wall or box structure, conduct operations so compacted embankment material is at the same elevation on both sides of the structure.

Where structural pilings are placed in embankment locations, limit the maximum particle size to 4 inches.

(b) Embankment within the roadway prism. Place embankment material in horizontal layers not exceeding 12 inches in compacted thickness. Incorporate oversize boulders or rock fragments into the 12-inch layers by reducing them in size or placing them individually as required by (c) below. Compact each layer according to Subsection 204.11 before placing the next layer.

Material composed predominately of boulders or rock fragments too large for 12-inch layers may be placed in layers up to 24 inches thick. Incorporate oversize boulders or rock fragments into the 24-inch layer by reducing them in size or placing them individually according to (c) below. Place sufficient earth and smaller rocks to fill the voids. Compact each layer according to Subsection 204.11 before placing the next layer.

(c) Individual rock fragments and boulders. Place individual rock fragments and boulders greater than 24 inches in diameter as follows:

(1) Reduce rock to less than 48 inches in the largest dimension.

(2) Distribute rock within the embankment to prevent nesting.

(3) Place layers of embankment material around each rock to a depth not greater than that permitted by (b) above. Fill all the voids between rocks.

(4) Compact each layer according to Subsection 204.11 before placing the next layer.

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

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

(a) <u>Compaction A.</u> Use AASHTO T 27 to determine the amount of material retained on a Number 4 sieve. If there is more than 80 percent retained on the No. 4 sieve use procedure (1). If there is 50 to 80 percent retained on the No. 4 sieve use procedure (2). If there is less than 50 percent retained on the No. 4 sieve use procedure (3).

(1) Adjust the moisture content to a level suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Use compression-type rollers at speeds less than 6feet

per second and vibratory rollers at speeds less than 3 feet per second. Compact each layer of material full width with one of the following and until there is no visible evidence of further consolidation.

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

Increase the compactive effort for layers deeper than 12 inches as follows:

- For each additional 6 inches or fraction thereof, increase the number of roller passes in (a) above by four passes.
- For each additional 6 inches or fraction thereof, increase the number of roller passes in (b) and (c) above, by eight passes.

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

Use compression-type rollers at speeds less than 6 feet per second and vibratory rollers at speeds less than 3 feet per second. Compact each layer of material full width according to (1) above.

(3) Classify the material according to AASHTO M 145. For material classified A-1 or A-2-4, determine the maximum density according to AASHTO T 180, method D. For other material classifications, determine the optimum moisture content and maximum density according to AASHTO T 99, method C.

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

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

(b) <u>Compaction B.</u> 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 there is no visible evidence of further consolidation or, if when a sheepsfoot roller is used, the roller "walks out" of the layer. Make at least three complete passes.

(c) Compaction C. 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.

204.12 Ditches. Slope, grade, and shape ditches. Remove all projecting roots, stumps, rock, or similar matter. Maintain all ditches in an open condition and free from leaves, sticks, and other debris.

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

204.13 Sloping, Shaping, and Finishing. Complete slopes, ditches, culverts, riprap, and other underground minor structures before placing aggregate courses. Slope, shape, and finish as follows:

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

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

(b) Stepped slopes. Where required by the contract, construct steps on slopes of 1⅓V:1H to 1V:2H. Construct the steps approximately 18 inches high. Blend the steps into natural ground at the end of the cut. If the slope contains nonrippable rock outcrops, blend steps into the rock. Remove loose material found in transitional area. Except for removing large rocks that may fall, scaling stepped slopes is not required.

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

(d) Finishing. 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 is visibly moist during shaping and dressing. Scarify to 6 inches below the bottom of low sections, holes, cracks, or depressions and bring back to grade with suitable material. Maintain proper ditch drainage.

For surfaced roads, remove all material larger than 6 inches from the top 6 inches of the roadbed.

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 there is no visible evidence of further consolidation.
(3) Method C. For roads designated as Construction Tolerance Class K, L, or M, finish the roadbed by spreading the excavation. Eliminate rock berms.

204.14 Disposal of Unsuitable or Excess Material. Dispose of unsuitable or excess material at designated sites or legally off of the project.

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

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

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

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

Clearing and removal of obstructions will be evaluated under Sections 201 and 203.

Measurement

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

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

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

(2) Do not include the following in roadway excavation:
(a) Overburden and other spoil material from borrow sources;
(b) Overbreakage from the backslope in rock excavation;
(c) Water or other liquid material;
(d) Material used for purposes other than required;
(e) Roadbed material scarified in place and not removed;
(f) Material excavated when stepping cut slopes;

(g) Material excavated when rounding cut slopes;
(h) Preparing foundations for embankment construction;
(i) Material excavated when benching for embankments;
(j) Slide or slipout material attributable to the Contractor's method of operation;
(k) Conserved material taken from stockpiles constructed at the option of the Contractor; and
(l) Material excavated outside the established slope limits.

(3) When both roadway excavation and embankment construction pay items are shown in the bid schedule, measure the following as roadway excavation only:
(a) Unsuitable material below subgrade in cuts and unsuitable material beneath embankment areas when a pay item for subexcavation is not shown in the bid schedule;
(b) Slide and slipout material not attributable to the Contractor's method of operations; and
(c) Drainage ditches, channel changes, and diversion ditches.

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

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

(1) Include the following volumes in embankment construction:
(a) Roadway embankments;
(b) Material used to backfill subexcavated areas, holes, pits, and other depressions;
(c) Material used to restore obliterated roadbeds to original contours; and
(d) Material used for dikes, ramps, mounds, and berms.

(2) Do not include the following in embankment construction:
(a) Preparing foundations for embankment construction;
(b) Adjustments for subsidence or settlement of the embankment or of the foundation on which the embankment is placed; and
(c) Material used to round fill slopes.

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

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

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

Payment

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

Table 204-1
Sampling and Testing Requirements

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Topping (704.05) & unclassified borrow (704.06)	Measured and tested for conformance (106.04)	Classification	—	AASHTO M 145	1 per soil type	Processed material before incorporating in work	Yes, when requested	Before using in work
		Moisture-density	—	AASHTO T 180, method D[(1)] or T 99, method C[(1)]	1 per soil type but not less than 1 per	"	"	"
		Compaction	—	AASHTO T 310 or other approved procedures	1 per 6000 yd^2 but not less than 1 per layer	In-place	—	Before placing next layer
Select borrow (704.07 & Select topping (704.08)	Measured and tested for conformance (106.04)	Classification	—	AASHTO M 145	1 per soil type but not less than 1 for each day of production	Processed material before incorporating	Yes, when requested	Before using in work
		Gradation	—	AASHTO T 27	"	"	"	"
		Liquid limit	—	AASHTO T 89	"	"	"	"
		Moisture-density	—	AASHTO T 180, method D[(1)] or T 99, method C[(1)]	1 per soil type but not less than 1 per	"	"	"
		Compaction	—	AASHTO T 310 or other approved procedures	1 per 6000 yd^2 but not less than 1 per layer	In-place	—	Before placing next layer

(1) Minimum of 5 points per proctor

Table 204-1 (continued) Sampling

Reporting Time
Before using in work
"
Before placing next layer
Before placing next layer

(1) Minimum of 5 points per

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample
Earth embankment (204.11, Compaction A)	Measured and tested for conformance (106.04)	Classification	—	AASHTO M 145	1 per soil type	Source of Material	Yes, when requested
		Moisture-density	—	AASHTO T 180, method D[(1)] or T 99, method C[(1)]	1 per soil type but not less than 1 per 13,000 yd^3	"	"
		Compaction	—	AASHTO T 310 or other approved procedures	1 per 3500 yd^2 but not less than 1 per layer	In-place	—
Top of subgrade (204.11 Compaction A)	Measured and tested for conformance (106.04)	Compaction	—	AASHTO T 310 or other approved procedures	1 per 2500 yd^2	In-place	—

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.

204.10 Embankment Construction.

Add the following:

Obtain written approval before beginning construction of embankments over 6 feet high at subgrade centerline.

(a) General.

Delete the third paragraph and add the following:

Compact embankment side slopes flatter than 1V:1.75H with a tamping type roller or by walking with a dozer. For slopes 1V:1.75H or steeper, compact the slopes as construction of the embankment progresses.

204.11_nat_us_04_11_2005

204.11 Compaction.

Delete the first paragraph and replace it with the following:

For compaction according to method (a), (b), or (c), use AASHTO T 27 to determine the amount of material retained on a Number. 4 sieve. For compaction methods (d) or (e) no sieve test is required.

Add the following compaction methods:

(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 (Roller Compaction) Method. 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.

209 - Structure Excavation and Backfill

209.00_nat_us_03_24_2008

Section 209A. — STRUCTURE EXCAVATION AND BACKFILL FOR SELECTED MINOR STRUCTURES

Description

209A.01 This work consists of excavating, preparing foundations, backfilling, and subsequent removal of safety features for the construction of selected structures with or without a geogrid reinforcing mesh and welded wire facing.

Material

209A.02 Conform to the following Subsections:

Crushed Aggregate	703.06
Backfill Material	704.03
Structural backfill	704.04
Geotextile type I-D	714.01
Geogrids, Category 1, 2, 3, 4, 5 or 6	714.03
Welded wire form	720.01(b)

Construction Requirements

209A.03 Preparation for Structure Excavation. Clear the area of vegetation and obstructions according to Sections 201 and 203.

209A.04 General. Excavate trenches or foundation pits to a width and length that allows room for work. When excavation is complete obtain written approval of the foundation. Ensure the foundation is firm with uniform density throughout its length and width. Foundation grade is the elevation at the bottom of any bedding for installing the structure.

Where necessary to blast rock, blast according to Section 205.

Follow OSHA safety regulations (29 CFR, Part 1926, Subpart P, Excavation) for sloping the sides of excavations, using shoring and bracing, and for using other safety features. When sides of excavations are sloped for safety considerations, provide one copy of the design that demonstrates conformity with OSHA regulations. Where support systems, shield systems, or other protective systems are to be used, design the shoring according to Section 562 and submit working drawings and construction details according to Subsection 104.03.

Remove safety features when no longer necessary. Remove shoring and bracing to at least 2 feet below the surface of the finished ground.

Saw cut or mill existing pavements or concrete structures adjacent to the area to be excavated that are designated to remain.

Do not deposit excavated material in or near a waterway. Do not stockpile excavated material or allow equipment closer than 2 feet from the edge of the excavation.

Dispose of unsuitable or excess material at designated sites or legally off the project. If approved, suitable excavated material may be used as backfill material or structural backfill.

Remove all water as necessary to perform work.

Survey minor structures according to Subsection 152.03 (e) and (i), and verify the limits of the structure. Survey and establish controls within ± 0.16 feet. Grade the foundation for a width equal to the length of the bottom geogrid layer.

209A.05 Foundation Preparation. Excavate any unsuitable material below foundation grade, and replace it with backfill material. Place backfill material in horizontal layers that, when compacted, do not exceed 6 inches in depth. Compact each layer according to Subsection 210.07.

Compact the foundation prior to placing backfill in Subsection 210.06

209A.06 Backfill. Place leveling course with crushed aggregate on the foundation grade when required. Backfill with structural backfill material. Place backfill in horizontal layers that do not exceed 6 inches in compacted thickness. Compact each layer according to Subsection 210.07.

Bring structural backfill up evenly on all sides of the structure as appropriate. Extend each layer to the limits of the excavation or to natural ground.

Ensure when placing the geotextile or geogrid layers that there are no voids below the layer. When placing geotextiles overlap the geotextile a minimum of one foot. When placing geogrid no overlap is required but ensure no gap between adjoining sheets is larger than one-inch. Do not operate equipment directly on top of or damage the welded wire form facing, geotextile, or geogrid elements. Place the geotextile and geogrid smooth and free of wrinkles or folds. Correct all damaged, misaligned, or distorted structure elements. Repair all damage to galvanized coating before installation.

Do not deviate from the design batter of the welded wire form by more than 1 inch per 10 feet of structure height.

209A.07 Compacting. 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 inplace density and moisture content according to AASHTO T 310 or other approved test procedures.

Do not apply density requirements as measured by AASHTO T 310 to material that is incapable of being tested or compacted to maximum values determined by AASHTO T 99. For these materials, fill the voids around the rock in each layer with earth or other fine material. Compact each layer, full width, until there is no visible evidence of further consolidation, with a vibratory steel wheeled roller with a mass of at least 8 tons.

In places not accessible to the rollers compact with alternative equipment to obtain the required compaction requirements.

209A.08 Acceptance. See Table 210-1 for sampling and testing requirements.

Clearing and removal of obstructions will be evaluated under Sections 201 and 203.

Survey work will be evaluated under Subsection 106.02 and 106.04.

Material for the backfill material and structural backfill will be evaluated under Subsections 106.02 and 106.04.

Structure excavation and backfill work will be evaluated under Subsections 106.02 and 106.04.

Shoring and bracing will be evaluated under Subsections 106.02 and 106.04.

Welded wire forms, geotextiles, and geogrids will be evaluated under Subsection 106.02 and 106.03.

Placement of welded wire forms, geotextiles, and geogrids will be evaluated under Subsection 106.02 and 106.04.

Measurement

209A.09 Measure the Section 210 items listed in the bid schedule according to Subsection 109.02 and the following.

Measure structural excavation by the cubic yard in its original position according to Subsections 204.16 (a) (1) and (2). Do not include the following volumes in structure excavation:

(a) Any material included within the staked limits of the excavation, such as contiguous channel changes and ditches, for which measurement is covered under other sections; or

(b) Material rehandled, except when the contract specifically requires excavation after embankment placement.

Measure backfill material and structural backfill by the cubic yard in place for the volume placed according to Subsection 204.16 (c).

Measure geotextile by the horizontal and vertical dimensions.

Payment

209A.10 The accepted quantities measured as provided in Subsection 109.02 and above, will be paid at the contract price per unit of measurement for the Section 210 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Payment for structure excavation, shoring, and bracing will be full compensation for excavation to a depth of 6 feet below the lowest elevation shown on the plans for each minor structure. When the excavation exceeds 6 feet, either the Contractor or the CO may request an equitable price adjustment for the depth in excess of 6 feet.

209.10_nat_us_10_23_2007

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.

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 streamcourse.
- 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.

(b) Pipe culverts.

(1) Pipe culverts with compacted backfill.

Add the following:

Excavate an area on each side of the pipe as needed to effectively achieve compaction requirements. Backfill without damaging or displacing the pipe. Complete backfilling of the trench with suitable material.

209.11_nat_us_02_24_2005

209.11 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, 258 and 262 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.

212 - Linear Grading

212.00_nat_us_05_19_2005

Delete the entire specification and replace it with the following:

Description

212.01 This work consists of clearing and grubbing, excavation and embankment, and erosion control to construct roadways and associated features.

Construction Requirements

212.02 Clearing & Disposal. Protect construction stakes and construction control markers. Remove or treat all trees, snags, downed timber, brush, and stumps within the clearing limits.

Immediately remove slash deposited in stream courses.

Fell all dead trees that are outside the clearing limits and that lean toward the road and are tall enough to reach the roadbed.

Leave stump heights less than 12 inches or one-third of the stump diameter; whichever is greater, measured on the side adjacent to the highest ground. Leave felled trees outside the clearing limits in place, and treat them no further unless otherwise designated.

Utilization standards for merchantable timber are listed below. Fall and buck merchantable material into lengths not to exceed _____ feet. Pieces (logs) will be considered as meeting utilization standards when such pieces would have met Utilization Standards if bucking lengths were varied to include such material.

Minimum Utilization Standards

Diameter (Inside Bark)

Length at Small End

8 feet _____ inches 33-1/3 Net Scale in % of Gross 2 Cubic Feet

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

Merchantable Timber

No merchantable timber on the project

Unmerchantable Timber and Large Construction Slash

Very limited unmerchantable timber will be scattered.

212.03 Pioneering. Do not undercut the final back slope during pioneering operations. Deposit material inside the roadbed limits. Do not restrict drainage.

212.04 Grubbing. Within the clearing limits remove stumps with less than 6 inches of cover.

212.05 Excavation & Embankment. Construct the roadway to the required template. Protect backslopes from being undercut. Embankment may be placed by side casting and end dumping.

Locate and use borrow material, and remove and treat unsuitable or excess material.

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

Leave slopes that are to be seeded in a roughened condition.

Use a crawler tractor with a dozer blade to shape and finish the roadbed. Provide for drainage of surface water, unless otherwise designated. Do not permit individual rocks in the roadbed to protrude more than 4 inches above the subgrade. A motor grader finish is not required.

Do not encroach on stream channels, wetlands, or extend beyond right-of-way or easement limits. Do not make alignment or profile grade adjustments that adversely affect drainage. Construct the roadbed within the following grading tolerances:

(a) Alignment (centerline). Alignment may be shifted a maximum of 10 feet left or right of the planned centerline. Curve radii may be reduced by up to 50 percent. Do not construct curves with radii less than 100 feet. Compound curves are permitted. Traveled way tolerance is (+) 2 feet unless otherwise designated.

(b) Profile grade. Profile grade may be shifted a maximum of 5 feet up or down from the plan elevation provided the new grade tangent does not vary more than 2 percent from the plan grade tangent. Connect revised forward and back grade tangents with a uniform vertical curve consistent with the design.

212.06 Drainage. Install culverts and other drainage structures according to Section 602 and Section 209.

212.07 Erosion Control. Install erosion control measures and seeding according to the drawings and Section 625.

212.08 Acceptance. Linear grading will be evaluated under Subsections 106.02 and 106.04.

Clearing and slash and timber treatment will be evaluated under Sections 201 and 203.

Measurement

212.09 Measure the Section 212 items listed in the bid schedule according to Subsection 109.02 and the following.

Do not measure changes in the clearing and grubbing quantity caused by alignment adjustments under Subsection 212.04.

Payment

212.10 The accepted quantities, measured as provided in Subsection 109.02 and above, will be paid at the contract price per unit of measurement for the Section 212 pay item listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

301 - Untreated Aggregate Courses

301.00_nat_us_03_03_2005

301 Title Change.

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

301.01_nat_us_03_03_2005

301.01 Work.

Add the following:

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

301.02_nat_us_05_16_2005

301.02 Material.

Add the following:

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

301.03_nat_us_02_28_2013

301.03 General.

Add the following:

Written approval of the roadbed is required before placing aggregate.

For pit run or grid-rolled material, furnish material smaller than the maximum size. No gradation other than maximum size will be required for pit-run or grid-rolled material. For grid rolling, use all suitable

material that can be reduced to maximum size. After processing on the road, remove all oversize material from the road and dispose of it as directed by the CO.

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

Develop and use Government furnished sources according to Section 105.

If the aggregate is produced and stockpiled before placement, handle and stockpiled according to Section 320. Establish stockpile sites at locations approved. Clear and grub stockpile sites according to Section 201.

301.04_nat_us_03_03_2005

301.04 Mixing and Spreading.

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

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

(a) Stationary Plant Method. Mix the aggregate with other required materials in an approved mixer. Add water during the mixing operation in the amount necessary to provide the moisture content for compacting to the specified density. After mixing, transport the aggregate to the jobsite while it contains the proper moisture content, and place it on the roadbed or base course using an aggregate spreader.

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

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

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

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

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

301.05_nat_us_10_14_2011

301.05 Compacting

Delete and replace with the following:

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

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

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

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

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

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

Compaction E. Removed.

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

Compaction G. Removed.

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

301.05_nat_us_05_17_2005

301.05 Compacting

Delete and replace with the following:

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

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

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

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

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

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

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

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

Compaction G. Compact to a density of at least 100 percent of the maximum density as determined by the Modified Marshall Hammer Compaction Method (available upon request from

USDA Forest Service, Regional Materials Engineering Center, P.O. Box 7669, Missoula, MT 59807).

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

308 - Minor Crushed Aggregate

308.05_0803_us_03_20_2012

308.05 Compacting and Finishing Crushed Aggregate.

Delete second paragraph and add the following:

(1) Method 1. Compact each layer according to Subsection 204.11. Roll from the sides to the center, parallel to the centerline or the road. Along the curbs, headers, and walls, and all places not accessible to the roller. Compact the material with approved tampers until no more visible displacement, using a minimum of three passes.

324 - Minor Aggregate, Commercial Source

324.00_nat_us_08_28_2008

Section 324. – MINOR AGGREGATE COURSES – COMMERCIAL SOURCE

Description

324.01 This work consists of constructing one or more courses of aggregate on a prepared surface. Work includes producing aggregate by crushing methods.

Material

324.02 Conform to the following Subsections:

Aggregate	703.06
Water	725.01

Construction Requirements

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

Request approval of the roadbed in writing before placing aggregate.

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

Submit aggregate gradations for approval by the CO.

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

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

324.04 Mixing and Spreading. Mix the aggregate and adjust the moisture content to obtain a uniform mixture with moisture content suitable for the specified compaction method. Spread and shape the mixture on the prepared surface in a uniform layer with no segregation of size, and to a loose depth that will provide the required compacted thickness. Place the mixture in a maximum compacted layer thickness of 6 inches.

When more than one layer is necessary, compact each layer according to Subsection 324.05 before placing the next layer. Route hauling and leveling equipment uniformly over the full width.

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

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

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

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

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

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

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

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

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

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

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

324.06 Construction Tolerance. If grade finishing stakes are required, finish the surface to within ±0.10 feet from staked line and grade elevation.

If grade finishing stakes are not required, shape the surface to the required template and check the surface with a 10-foot straightedge. Defective areas are surface deviations in excess of 1/2 inch in 10 feet between any two contacts of the straightedge with the surface.
Correct all defective areas by loosening the material, adding or removing material, reshaping, and compacting.

Ensure that the compacted thickness is not consistently above or below the specified thickness. The maximum variation from the compacted specified thickness is ½ inch.

Ensure that the compacted width is not consistently above the specified width. The maximum variation from the specified width will not exceed +12 inches at any point.

324.07 Maintenance. Maintain the aggregate course to the correct line, grade, and cross-section by blading, watering, rolling, or any combination thereof until placement of the next course. Correct all defects according to Subsection 324.06.

324.08 Acceptance. See Table 324-1 for sampling and testing requirements.

Aggregate gradation and surface course plasticity index will be evaluated under Subsection 106.03 and 106.04. Other aggregate quality properties will be evaluated under Subsections 106.02 and 106.03. Placement of aggregate courses will be evaluated under Subsections 106.02 and 106.04.

Preparation of the surface on which the aggregate course is placed will be evaluated under Section 204 or 303 as applicable.

Measurement

324.09 Measure the Section 324 items listed in the bid schedule according to Subsection 109.02 and the following as applicable.

Measure square yard width horizontally to include the top of aggregate width including designed widening. Measure the square yard length horizontally along the centerline of the roadway.

If the measurement for aggregate is by cubic yard using contract quantities then measure aggregate by the cubic yard in-place once compacted, otherwise measurement for aggregate by the cubic yard is measured by the cubic yard in the hauling vehicle.

Measure thickness perpendicular to the grade of the travelway.

Measure width perpendicular to the centerline.

Payment

324.10 The accepted quantities will be paid at the contract price per unit of measurement for the Section 324 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Table 324-1
Sampling and Testing Requirements

Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
AASHTO T 96	1 per type & source of material	Source of material	Yes, when requested	Before using in work
AASHTO T 104	"	"	"	"
AASHTO T 210	"	"	"	"
ASTM D 5821	"	"	"	"
AASHTO T 2	2 per day	From windrow or roadbed after processing or from approved crusher sampling device	Yes	48 hours

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category
Aggregate source quality 703.06	Measured and tested for conformance (106.03 & 105)	LA abrasion (coarse)	—
		Sodium sulfate soundness loss (coarse & fine)	—
		Durability index (coarse & fine)	—
		Fractured faces	—
Subbase, Base, and Surface courses	Measured and tested for conformance (106.04)	Sample	—

Table 324-1 (continued)
Sampling and Testing Requirements

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Subbase, Base, and Surface	Measured and tested for conformance (106.04)	Moisture-density Method D	—	AASHTO T 99 (1)	1 per type and source of material	Source of material	Yes, when requested	Before using in work
		Moisture-density Method E	—	R-1 Marshall	"	"	"	"
		Moisture-density Method F	—	AASHTO T 180(1)	"	"	"	"
		Moisture-density Method G	—	R-1 Marshall	"	"	"	"
		In-place density & moisture content	—	AASHTO T 310 or other approved procedures	3 per day	In-place	—	Before placing next layer

602 - Culverts and Drains

602.03_nat_us_09_06_2005

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 feet, whichever is less.

625.00_0803_us_04_07_2009

625 - Turf Establishment

625.06 Fertilizing

(a) Dry method or (b) Hydraulic method: Add the following

Fertilzer shall be uniformly applied at the rate of 1000 lbs per ac and shall have

A chemical analysis of 10% Nitrogen, 10% Phosphorus, 10% Potassium

625.07 Seeding (a) Dry method

Remove the last sentence “Lightly compact the seedbed within 24 hours after seeding.”

625.07 Seeding

Add the following:

“The seeding season shall be from January 1st to December 31st.

Seed and fertilizer shall be applied at the rates for one of the seeding periods as follows:

The clover shall be inoculated.

Modified from Table 6-A (Seeding Mixtures for Erosion Control Plantings); Georgia Best Management Practices

For all seed mixes, planting depth <1/4 inch. Seeding rates are for broadcast seeding.

Fall Plantings

Source	Species	Seeding Rate lb./acre		Timing Peidmont	Fertilizer Pounds (10-10-10)	Comments
GA BMP	Crimson clover	15	bulk	Sept. 1 to Nov. 1	500	Well drained clayey or loamy soils. Inoculate clover. Tolerates lower soil pH.
	Hairy Vetch	15	bulk			
	Wheat	60	bulk			
GA BMP	Arrowleaf or crimson clover	15	bulk	Sept. 1 to Nov. 1	500	Well drained sandy or loamy soils. Inoculate clover. **Use annual rye when possible**.
	Perennial ryegrass	15	bulk			
	Wheat	40	bulk			
GA BMP	White clover (Dutch or Ladino)	5	bulk	Sept. 1 to Nov. 1	500	Well drained clayey or loamy soils. Perennial clover can persist for several years. Inoculate clover seed. Maintaining pH above 6.0 is critical.
	Red clover	10	bulk			
	Perennial ryegrass	15	bulk			
	Annual rye	30	bulk			
	Wheat	30	bulk			

Spring Plantings

GA BMP	Perennial ryegrass	20	bulk	Feb. 15 to April 1	500	****For areas with high soil erosion concern.** Low maintenance, reseeding annuals.
	Partridge pea	2	PLS			
GA BMP	Bahiagrass	25	bulk	April 15 to July 1	500	****For areas with high soil erosion concern.**
	Brown Top Millet	25	bulk			
Alternative with natives	Spring oats or brown top millet	30 /25	bulk	April 1 to June 15 or dormant season from Dec. 1 thru Feb.	0	Perennial cover with cover crop, seeding depth <1/4"
	Switchgrass 'Alamo'	3	PLS			
	Big bluestem 'KY ecotype' or 'Kaw'	4	PLS			
	Indiangrass 'Americus' or 'KY ecotype'	4	PLS			

625.08 Mulching

Add the following:

Mulch shall be applied at the following rates:

Hay or straw @ the rate of 4,000 pounds per acr, wood cellulose @ the rate of 1500 pounds per acre.

718 - Traffic Signing and Marking Material

718.05_nat_us_08_05_2009

718.05 Aluminum Panels

Delete the third paragraph and replace with the following:

Clean, degrease and properly prepare the panels according to methods recommended by the sheeting manufacturer. Conversion coatings will conform to ASTM B-921 or ASTM B-449.

Item 02 – 05 – Site Preparation, Tree Planting, Planting Release and Pre-Commercial Thinning

GENERAL SPECIFICATIONS

The contractor shall provide all personnel, equipment, tools, supervision, and other items and incidental services necessary to perform the project work. The location of the culvert is located on within Cutting Units # 3 and 6 of the Standfordville West Timber Removal area.

Shortleaf Pine/ woodland Restoration

Approximately 28 acres of shortleaf pine/ woodland restoration treatments are proposed within Compartments. These treatments may include site-preparation using hand tools and/or chemical methods (estimated cost is $300/ac); 28 acres of planting trees (estimated cost is $200/ac), and release treatments within 28 acres (estimated cost is $250/ac). Pre-commercial thinning using hand tools will be performed in conjunction with release work on 28 acres (estimated cost is $300/ac). The estimated costs include contract costs all materials needed to perform these treatments (Site prep, planting, release, Pre-commercial thin) for an estimated cost of $29,400.

Approximately 28 acres of shortleaf/woodland restoration treatments are proposed within Compartment 146, stands 34 and 16). Shortleaf pine would be restored within these stands using the "Modified Shelterwood" method. This is a silvicultural method in which a varying number of reserve trees are not harvested to attain goals other than regeneration. In this case, the long-term goal is to manage the area as shortleaf pine/woodland.

All merchantable loblolly pine and Sweetgum trees would be removed. Healthy shortleaf pine and desirable mast-producing hardwoods (such as oaks and hickories) would also be retained. Following the timber harvest, the stands would be treated with herbicides (chemical site preparation) during the growing season (June through September). The types, concentrations and herbicide application methods would be the same as those described in the attached "Statement of Work for Standfordville West Reforestation Project"

After the chemical site prep, burning (March-June) would be used to eliminate loblolly pine seedlings. Once the loblolly pine seedlings have been controlled (through burning and or manual treatments), shortleaf pine seedlings would be hand-planted on a 8 foot by 9 foot spacing. Planting of shortleaf pine seedlings would take advantage of gaps created during timber harvest since desirable overstory trees would be left as reserves. This would result in a two-aged structure in most of the stands.

1st and 3rd year Stocking exams will be initiated to determined that stocking levels are adequate (when "free to grow" pine seedlings fall below 200 trees per acre or when total stems exceed 1000 per acre) and a release is needed. Stocking surveys will be furnished by the Forest Service (estimated at $15/ac).

Herbicides and manual treatments would be used after loblolly pine harvest to prepare the site for shortleaf pine regeneration. A second herbicide treatment known as a chemical release would be done about three to five years after trees are planted. The release treatment would be used to reduce competition to the desired understory trees so they could become dominant in the stands. Pre-commercial thinning will be performed in conjunction with release work about 3-7 years. Treatment will be conducted when there are 1000 or more stem per acre. Pre-commercial thinning will be accomplished using chainsaw (hand tools).

The table below lists the silvicultural treatments:

COMP / STAND	ACRES	Unit	TIMBER STAND IMPROVEMENT	SITE PREP	Reforestation planting	Release	Pre-Commercial Thin
146 / 34	19	6	Shortleaf Pine	Chemical	Artificial	Chemical/ hand tool	Manual/ Hand tool felling
146 / 16	9	3	Shortleaf Pine	Chemical	Artificial	Chemical/ hand tool	Manual/ Hand tool felling

Government Furnished Property

Item	**Type**	**Stocking density (tpa)**	**acres**	**Estimated Unit Quantity**	**Estimated Cost/ac**	**Estimated cost**
Shortleaf Pine	Bare root Seedlings	605	28	17,000 trees	$150/ 1k trees	$2,550.00
Stocking surveys	1st , 3rd, final		28	3 surveys	$15/ ac	$1,260.00

Contractor Furnished Property

Treatment	Estimated cost/ acre	Acres	Subtotal	Total
Site prep	$300	28	$8,400.00	$29,400
Planting	$200	28	$5,600.00	
Release	$250	28	$7,000.00	
Pre-commercial Thin	$300	28	$8,400.00	

STATEMENT OF WORK PROPOSAL

For

STANDFORDVILLE WEST REFORESTATION PROJECT

Chattahoochee-Oconee National Forests
Oconee Ranger District

PART 1--SCHEDULE

C.01 SCOPE OF WORK

1.1 Scope of Contract

It is the intent of this contract to secure services for Site preparation; Planting Government-furnished seedlings in a manner to insure acceptable survival at the specified stocking level per acre; Release; and Pre-commercial thinning of pine seedlings by foliar spray and by a cut surface herbicide spray and manual felling. No materials, labor, supervision, or equipment will be furnished by the Government unless specifically identified as Government furnished property.

1.2 Description and location

18,000 bare root shortleaf pine seedlings are to be planted. Pine seedlings will be planted with a dibble bar.

The following information is included as an attachment:

- Area table showing unit numbers, compartment, stand, acres, and prescribed herbicide to be applied.
- General vicinity map (1 map total)
- Individual area maps (1 map total)

Acreage. Acreage listed in the table was determined by Global Position System (GPS) and is considered actual acreage and not an estimate.

Boundaries. Where a district stand change doesn't exist along boundary, boundaries will be marked with orange paint or flagging on perimeter trees and brush facing into the work areas.

Substitution of Areas. When it is determined by the Government that the original areas or portion thereof are unsuitable or unavailable for planting, the Contracting Officer reserves the right to delete areas or to substitute at the Task order Quoted price the same type and amount of work (+/- 5 acres) in other areas of similar topography and conditions within the Ranger District boundaries, in lieu of the original areas.

1.3 Order of Work

The government reserves the right to determine the sequence of the areas worked.

1.4 Government Furnished Property

The Contractor will give a set time frame (one year) of the when the contractor will need the trees to conduct tree planting activities.

The Government shall deliver the following materials, supplies, and property at the place and time specified below.

1. Seedlings. Seedlings will be furnished in sealed bags, bales, or bundles. Contractor shall be responsible for loading and transporting seedlings from the storage site to the planting site. Seedlings will be considered delivered to the Contractor when the Contractor loads seedlings on his vehicle for transporting to planting sites.

Seedlings may only be picked up during the specified hours and days. Not more than one day's supply of seedlings may be picked up on any one day, except a two day supply may be picked up on Friday or the day preceding a Federal holiday.

Storage Site:	Pickup Time:
Oconee District Work Center	7:30 A.M. to 8:30 A.M. Monday through Friday excluding Federal holiday.

The Forest Service will coordinate with the contractor to have sufficient fresh seedlings on hand to meet the agreed upon starting date, estimated crew size, and expected rate of progress. Seedlings are perishable and have limited viability during storage. Once lifted from the nursery and placed in storage at the Work Center, seedlings should be planted within 45 days before their viability declines below an acceptable level.
The contractor will be responsible for the cost of expired seedlings when seedlings have been ordered and stored, but have not been planted before their expiration date due to circumstances within the contractor's control. Seedling cost is shown in section 332.

1.5 Contractor Furnished Property

Foliar Spray Herbicide Site Preparation. The spray solution to be used will consist of the mixture as listed below for
Glyphosate with at least 1 percent nonionic surfactant mixed in water. A dye will be added to the spray mixture to ensure coverage.

Herbicide Common Name	Lbs ai/gal	% solution	Lbs ai/acre	Max Gallons of Spray/acre	Max Gallons of Solution/acre
Glyphosate	5.4	3.0%	2.0	10	0.31

Cut Surface Release Herbicide. The spray solution to be used will consist of the mixture as listed below for glyphosate. Only hardwood or other broadleaf vegetation will be needed to be sprayed. A dye will be added to the spray mixture to ensure coverage.

Herbicide Common Name	Lbs ai/gal	% solution	Lbs ai/acre	Max Gallons of Spray/acre	Max Gallons of Solution/acre
Glyphosate	5.4	50.0%	2.0	0.65	0.31

1. Water needed for mixing herbicide and equipment cleaning may be obtained from the Oconee Ranger District Work Center.

2. The Contractor will be responsible for mixing the herbicide solution, and supplying the herbicide for this contract.

1.5 Licensing and Insurance Requirements

Refer to FAR 52.236-7. Permits and responsibilities in Section 1. Contractors are required to comply with rules of Georgia Department of Agriculture 40-21, Pesticide use and Application. Requirements include a Pesticide Contractors License, Commercial Applicator's license and financial responsibility.

C.02 TECHNICAL SPECIFICATIONS

2.1 Equipment Requirements

Herbicide Spraying:
Lower-volume hand operated backpack sprayers with a .2503 flat fan nozzle or equivalent (prior approval by Contracting Officer Representative (COR).

Planting:
The dibble bar (OST or KBC type) with a blade of no less than 8 inches will be used to plant pine seedlings. Hodads, sticker bars or any other similar planting tools will not be permitted for use.

Cut/Spray Release/ Precommercial thinning:
Equipment used must be of sufficient power and size to cut stems ranging from 2 inches in height to 4.9 inches DBH. Brush cutters and chainsaws are the most practical implements to complete the required work.

2.2 Personnel Requirements

Planting crews - Unless otherwise agreed, each planting crew will contain no more than five planters. Each crew will perform as an individual working unit during normal daily work operations. Crews will not be separated or divided into smaller working units unless approved by the Government consent will be most applicable in finishing small area whose crew size would be impractical.

Crew members - If contractor continues to employ a planter who continually mishandles or improperly plants seedlings, a Suspend Work Order may be issued for the entire crew.

Supervision - Each crew shall have a supervisor capable of conversing with Forest Service personnel and the planting crewmembers. The supervisor will have written designation indicating the limits of the supervisor's authority. The supervisor shall be with the crew AT ALL TIMES while the crew is working.

2.3 Treatment of Areas

Site Preparation

Liquid herbicide formulations will include a compatible dye. No soil-active herbicide is applied within 30 feet of the drip line of non-target vegetation (such as wildlife den trees, hardwood inclusions, or adjacent stands) that is specifically designated for retention within or next to the treated area.

No herbicide is ground-applied within 100 horizontal feet of lakes, wetlands, perennial or intermittent springs and streams, or any public or domestic water source. No soil-active herbicide (with a half-life longer than three (3) months) is applied within 25 feet of ephemeral streams.

No herbicide is broadcast within 100 feet of private land or within 300 feet of a private residence. Herbicide mixing, loading, or cleaning areas in the field are located at least 50 feet from ephemeral streams, and are not located in sensitive areas as identified on the individual treatment area maps, or within 200 feet of private land, open water or wells. All herbicide shall be mixed at the treatment site.

Application equipment, empty herbicide containers, clothes worn during treatment, and skin are not cleaned in open water or wells. Mixing and cleaning water must come from a public water supply and be transported in separate labeled containers.

All empty herbicide containers will be triple rinsed on the application site and allowed to air dry. Wastewater from triple rinsing will be added to herbicide mixture and used on treatment area. Dry containers will be punctured and disposed of in a proper manner by the Contractor.

All sweetgum, yellow poplar, maple, elm, and ash trees under one inch in DBH. Any kudzu or privet found in the unit will also be treated using a direct foliar spray. Uniformly cover the foliage of the vegetation to be controlled with the spray solution. Do not over apply causing excessive runoff from the treated foliage. Avoid direct application to pines and vegetation not to be treated. (See C.02, 2.3).

Artificial Regeneration (Planting)

Planting Conditions
Seedlings may be planted any time weather conditions are satisfactory based on the following:

- Ground not frozen
- Air temperature between 32 degrees and 75 degrees Fahrenheit.
- Winds less than 15 MPH disregarding occasional gusts.

Spacing

Plant seedlings at the spacing designated for the area (shown on attached table) to achieve the prescribed stocking level. Plant trees evenly over the entire area in identifiable rows. Vary spacing when necessary due to ground conditions provided however tree seedlings must be planted within a tolerance not to exceed 10 percent plus or minus the prescribed trees per acre. Minimum and maximum trees planted per acre are based on properly planted seedlings. When planting shortleaf pine, try and space the new trees between the already existing shortleaf pine. You can ignore the loblolly, as these will likely die in subsequent burning.

	Stocking Level – trees per acre		
Designated Spacing (see Area Table)	Prescribed (Rx)	Minimum-- 10% below Rx level	Maximum 10% above Rx level
8' x 9'	605	545	666

NOTE: All seedlings will be planted on 8' X 9' spacing. Site-specific information may be obtained from the technical contact listed in Section 1.4.

Plant trees as close as possible to slash (logs, piled debris, rock, etc.)

Unplantable Seedlings
Seedlings furnished will be "bed-run" and will contain an unknown amount of Unplantable seedlings. Unplantable seedlings include seedlings without lateral roots, roots less than six inches, stem diameter less than 1/8 inch, stems less than 6 inches, and broken stems.
Unplantable seedlings are NOT to be planted. Any unplantable seedling used will be counted as improperly planted.

Do not sort or cull seedlings prior to actual planting time. Cull unplantable seedlings only when the individual seedling is removed from the planter's bag for planting. At that time, drop the unplantable seedling on the ground. Unusual amounts of plantable seedlings that are discarded will be counted as wasted seedlings. A payment deduction will be made in accordance with Section C.03-3.5.

Pruning
Seedling roots should NOT be pruned or cut by the contractor.

Planting Instructions
Leaves, litter, duff, etc., shall be removed from the planting spot before the planting tool is inserted into the ground to prevent this material from falling into the planting hole. Remove only one seedling at a time from the planting bag. Do not carry seedlings in hand with roots exposed. Wait until after the planting hole has been made before removing seedling from bag.

Plant each seedling at the depth it grew in the nursery, or no more than 1 inch deeper. For shortleaf pine seedlings, plant each seedling at the depth it grew in the nursery or no more than 1 inch above, do not plant deeper than the seedling grew in the nursery.

Plant seedlings in a manner to prevent “U” roots, “L” roots, and twisted or balled roots. Pack soil firmly around each seedling. Close the planting hole at the bottom as well as the top. Seedlings will be planted so as to withstand pulling from the ground by the terminal group.

Equipment Detailed Instructions

Dibble bar (pine seedlings).

Plant seedlings according to the exhibits titled "How to Hand Plant Seedlings" and "Dibble Planting".

Follow the following steps:

1. At the proper spacing within the row pick a location free of debris (duff, leaves, litter, grass, etc.) or clean off a planting spot with foot or planting bar.
2. Insert the entire usable blade of the planting bar straight down into the soil in the center of the planting spot.
3. Pull back on the bar handle to open the planting hole. If the hole does not open cleanly, rock the handle to and from until a clean hole is formed. Remove the planting bar from the hole.
4. Remove ONE plantable seedling from the planting bag. Unplantable seedlings are to be dropped on the ground. (See section– Unplantable seedlings).
5. Immediately place the plantable seedling in the planting hole. The roots should be gently pushed into the hole so the root collar of the seedling is below the desired planting depth. The seedling should then be pulled upward until the desired planting depth is reached.
6. Secure the seedling at the proper planting depth with soil. This is done by using the planting bar to slough off the near side of the planting hole. To do this, the bar is inserted part way 1 to 2 inches behind the planting hold and the handle is pushed forward causing soil to move forward and hold the seedling temporarily in place.
7. Make the closing hole by inserting the entire usable bar blade straight down into the soil approximately 2 to 4 inches behind the planting hole.
8. Pull firmly back on the bar handle to close the bottom of the planting hole and pack soil firmly against seedling roots.
9. Push bar handle forward to firmly pack soil against the entire portion of tree in the ground. If necessary, to remove bar from ground leaving a clean hole, the bar may be rocked to and fro prior to withdrawal.
10. Fill in the second hole by firming (stamping) with heel. Do NOT step on the seedling or cause it to lean.

Care and Handling of Seedlings

Seedling care is the Contractor's responsibility, including keeping the seedling bags sealed, cool (but not frozen), shaded, moist and never left exposed to sun or wind, or subject to contamination from fuels or other pollutants. Contractor and his crews will follow the guidelines shown below and also take any other precautions necessary to protect the seedlings.

- Keep seedling bags in the shade.
- Do not crush or/and sit on seedling bags.
- Do not build a warming fire within 50 feet of area where seedlings are stored or handled.
- Keep seedling bags sealed prior to planting.
- Open only one bag at a time. The entire crew will get seedlings out of this bag until the seedlings are used up before opening the next bag.
- Quickly remove only enough seedlings to fill planting bags to be carried by the planters. Seedlings should not be exposed to the elements for more than two minutes.
- No additional time is allowed for counting seedlings. Do not separate, untangle, or count out an advance quantity of seedlings.
- Do not allow planters to carry an excessive amount of seedlings.
- Planting bags should not be filled to the point where "packing" occurs.
- Tightly close partially used bag as soon as seedlings are removed.

- Contractor shall provide a clamp or cord to keep bag closed.
- Immediately repair any torn, snagged, ripped or punctured bag.
- Handle seedlings gently. Do not hit roots or strike roots across an object to remove excess soil.
- Keep seedling roots moist at all times prior to and during planting.

Cut Surface Release

- All pines, brush and non-desirable woody stems (i.e. sweetgum, yellow poplar, maple, elm, and ash trees) within an 8 foot radius of a desired pine tree will be cut and sprayed with herbicide.
- Desired pine trees will be selected from dominant seedlings on a12 x 12 foot spacing.
- No oaks, hickories or persimmon trees will be cut unless agreed upon by the COR.
- All slash will be lopped and scattered not to exceed 3 feet in height within 50 feet of all public roads. Stump heights will not exceed 6 inches in height.
- The outer one (1) inch of the cut surface of the stump will be sprayed until wet around the entire circumference of the stump.
- Stump spray will be done as soon as possible after the tree is cut, but no longer than 20 minutes afterward.
- The herbicide solution will be thoroughly agitated before filling the squirt bottle or sprayer.
- Trees to be stump sprayed will not be cut during rainfall, and all trees already cut when rainfall begins will be immediately stump sprayed.
- Trees will not be cut and stump sprayed when the air temperature is 32 degrees or less.
- Cut trees will be completely severed from the stump as close to the ground as is safely practical but not higher than six (6) inches from ground level on the uphill side of the tree unless otherwise specified by the COR.
- Severed stems will not lean against or hang in standing trees but will lie within two (2) feet of the ground. Gasoline powered brush cutters would likely be the best tool for the release projects.
- Protect ‘crop trees’ and ‘reserve trees’ from damage by directional felling to the maximum practicable safe extent.
- Stems to be severed adjacent to streams, private land, and improvements should also be directionally felled to avoid potential damage.

Pre-commercial Thinning/Release of Pine Seedlings and Saplings

- Pre-commercial thinning will be accomplished by completely severing all woody vegetation (excluding shortleaf or Longleaf pine seedling/saplings and dogwood species greater than 3 inches diameter at breast height (DBH)) 2 feet in height or greater and less than 5 inches at DBH within 12 feet of selected pine crop trees.
- Crop trees will consist of the most dominant (tall, well formed – free of defects) pine seedlings and saplings 2 feet and greater in height.
- Pine seedlings and saplings larger than (5) inches DBH will not be cut, however, they will be included in the crop tree spacing.
- Hardwood seedlings and saplings (excluding appropriate Reserve Trees) 2 feet and greater in height, up to 5 inches DBH, will be considered as crop trees in areas void of pine species.
- Mast producing species such as Oak and Hickory will be the priority crop trees.
- Hardwood stems (excluding Reserve Trees) 5 inches DBH or larger will be doubled girdled (Double girdle: saw kerf width severed through cambium, completely around stem two separate times). Girdles will not be greater than six inches apart.
- All cut trees will be completely severed from the stump and will lay flat on the ground (no trees

will be left leaning into crop trees).
- Maximum stump height is (6) inches.

2.4 Reserve Trees

- Shortleaf /Longleaf Pine
- Oak and Hickory species 5 inches DBH or greater.
- Dogwood species greater than 3 inches DBH.
- Any species greater than 10 inches DBH containing hollow cavities beneficial to wildlife (upon agreement with the COR or Inspector).
- Any trees designated by the Inspector or COR.

2.5 Access

Any vehicular use of closed roads must be approved by the COR. The contractor is responsible for repair of any damage (rutting, excessive soil exposure, etc.) caused by vehicles.

2.6 Debris Removal

All slash deposited by the contract crew(s) shall be removed from all roads within and out of the project areas. Slash that falls over a forest Service property line will be moved into the project areas.

2.7 Herbicide usage Sheets

The contractor shall supply a herbicide usage sheet showing each day worked, amount of herbicide mixture used daily and area treated to the COR upon completion of each area.

2.8 Vegetation Not To Be Treated

The following vegetation will not have **herbicide** treatments under any circumstances.

A. No vegetation within 15 feet of a private property line will be treated by foliar spray.
B. Herbicide will not be applied within 100 feet of any lakes, wetlands, or perennial/ Intermittent stream.
C. No soil active herbicide will be applied with 25 feet of ephemeral stream.
D. Property boundary trees.
E. Vegetation designated by the C.O.R. or Inspector.

2.9 Inclement Weather

Work will be stopped in the event of the following weather conditions:

A. Relative humidity of 20% or less.
B. Wind (at target) greater than 15 mph.

C. Temperature 98 degrees Fahrenheit or above.
D. Rain forecasted 4 hours before application, during rain, or at least 1 hour after rain.

2.10 Requirements with Herbicide Use

The contractor is responsible for the safe application of the herbicide. All safety requirements listed on the herbicide label will be followed by the contractor.

C.03 INSPECTION AND ACCEPTANCE

3.1 Inspection

Inspection of work performance under this contract shall be made by the Contracting Officer Representative (COR) or the designated inspector as the work progresses at such intervals as are necessary to insure compliance with the contract specifications and provisions.

All contract areas will be sampled to determine the number of seedlings properly and improperly planted. Sampling will consist of $1/100^{th}$ acre plots taken at a minimum rate of one per acre on a grid basis over the entire area. Natural seedlings and seedlings planted in a previous season will not be counted. The total number of properly planted seedlings per acre will be derived from the average of the results of the sample plots taken in the area.

Upon completion of work on an area, the contractor shall notify the COR that work on the area is completed and the COR shall make an overall inspection of the work completed. If the work completed is accepted, the Contractor shall proceed with work on the next area. If the work is not accepted by the COR, the Contractor shall complete any remedial work required prior to commencing work on the next area.

3.2 Acceptance

An area will be accepted for payment when the number of property reported seedlings per acre is between the minimum and the maximum number for the designated spacing as shown in Section C.03. The spacing seedlings must also be adequately uniform over the entire contract area before the area will be accepted.

3.3 Unsatisfactory Work

In the event any or the work does not meet the specifications through the fault or negligence of the Contractor, such work shall, upon request of the COR, be made to conform to specifications by the Contractor at his expense. Cost of re-inspection by the Government will be charged to the Contractor.

3.4 Basis of Payment

Payment will be made on the basis of the acreage stated in the Task Order upon satisfactory completion of the work and acceptance by the Contracting Officer.

Full payment at the unit price bid will be made for all areas accepted in accordance with Section C.03 - "Acceptance".

An area may be accepted for reduced payment if the number of properly planted seedlings per acre is at least 90 percent of the minimum stated in Section C.02- 2.3. A payment reduction of 1 percent from the unit price will be made for each percentage that the number of properly planted seedlings falls below the minimum. An area will not be accepted if the number of properly planted seedlings falls below 90 percent of the required minimum per acre.

Payment will only be made for completed and accepted areas. No payment will be made for partially completed areas.

3.5 Deductions

A deduction at the rate of $150 per thousand for shortleaf will be made for:

1. Dead, Damaged, lost, stolen, or wasted seedlings, excluding un-plantable seedlings.

2. Seedlings planted in excess of the maximum number per acre.

3. Unplanted seedlings kept in storage longer that the acceptable viability period. This deduction will be made when seedlings have been ordered and stored based on the contractor's schedule, but have not been planted due to delays within the contractor's control.

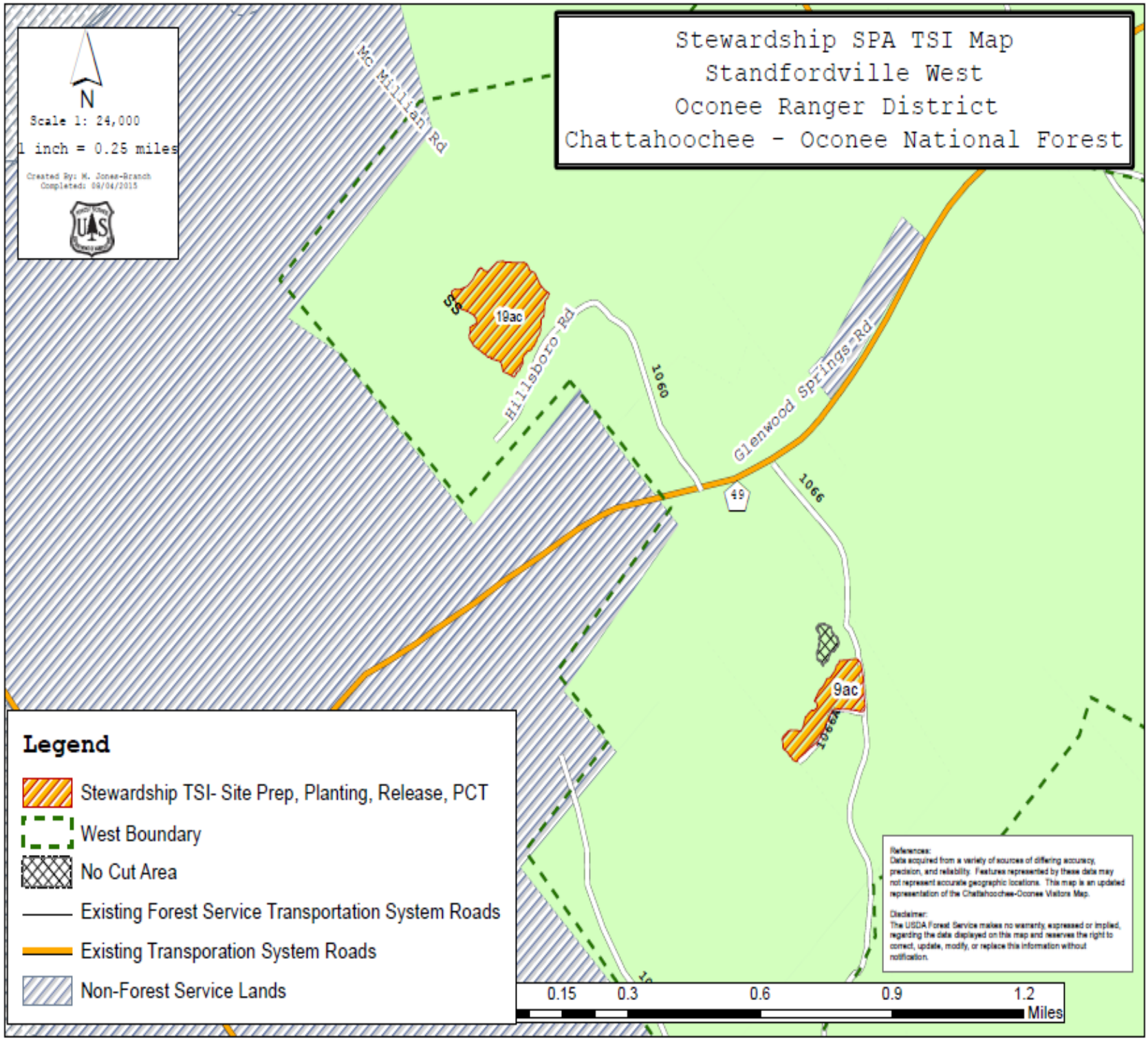
A deduction based on replacement cost to the Government will be made for government furnished property (other than seedlings) not returned at the end of the contract performance. See FAR Clause 52.246.4, Inspection of Service, regarding deductions for work not conforming to contract requirements.

B.01 LINE ITEMS

ITEM NO.	DESCRIPTION	Units	QTY	Estimated Unit Price/acre	Total Price
1	Foliar Spray Site prep at 3% Glyphosate	Acre	28	$0.00	$0.00
2	Artificial regeneration Planting containerized seedling	Acre	28	$0.00	$0.00
3	Cut Surface Herbicide Release at 50% Glyphosate	Acre	28	$0.00	$0.00
4	Pre-commercial Thinning	Acre	28	$0.00	$0.00

The table below lists the silvicultural treatments:

COMP / STAND	Cutting Unit	Acres	TIMBER STAND IMPROVEMENT	SITE PREP	Reforestation planting	Release	Pre-Commercial Thin
146 / 34	6	19	Shortleaf Pine regeneration	Chemical	Artificial- 8'x9' spacing-605tpa	Chemical/ manual tool	Manual/Hand tool felling
146 / 16	3	9	Shortleaf Pine Regeneration	Chemical	Artificial- 8'x9' spacing-605tpa	Chemical/ manual tool	Manual/Hand tool felling


Stewardship SPA TSI Map
Standfordville West
Oconee Ranger District
Chattahoochee - Oconee National Forest
N
Scale 1: 24,000
1 inch = 0.25 miles
Created By: M. Jones-Branch
Completed: 09/04/2015
Mc Millian Rd
19ac
Hillsboro Rd
1060
Glenwood Springs Rd
49
1066
9ac
Legend
Stewardship TSI- Site Prep, Planting, Release, PCT
West Boundary
No Cut Area
Existing Forest Service Transportation System Roads
Existing Transporation System Roads
Non-Forest Service Lands
References:
Data acquired from a variety of sources of differing accuracy, precision, and reliability. Features represented by these data may not represent accurate geographic locations. This map is an updated representation of the Chattahoochee-Oconee Visitors Map.
Disclaimer:
The USDA Forest Service makes no warranty, expressed or implied, regarding the data displayed on this map and reserves the right to correct, update, modify, or replace this information without notification.
0.15
0.3
0.6
0.9
1.2
Miles

Item 06 – Gate Replacement/ Installation

GENERAL SPECIFICATIONS

Seven (7) gates will be installed on Forest Service system roads. The existing gates are in poor condition through damage or deterioration. New gate installation will be on roads that will be closed to public use from the recent Motor Vehicle Use Changes. The existing gates will be removed from Forest Service property. The gate installation/replacement will improve protection from unauthorized activity, which causes erosion and damage to soil and water resources. **Specific maps can be provided upon request.**

PART I. SECTION C, SPECIFICATIONS

C.1 – SCOPE OF CONTRACT

The contractor shall furnish all equipment, labor, transportation, supervision, and incidental services necessary to perform all work required for the Gate Replacement/ Installation on the Oconee National Forest in accordance with the specifications and provisions of the contract.

C.2 – DESCRIPTION AND LOCATION

The project consists of installing on selected Forest Service roads with damage gates. If locations change, they will be agreed upon in writing by the Forest Service and contractor to ensure similar work exists.

TECHNICAL SPECIFICATIONS

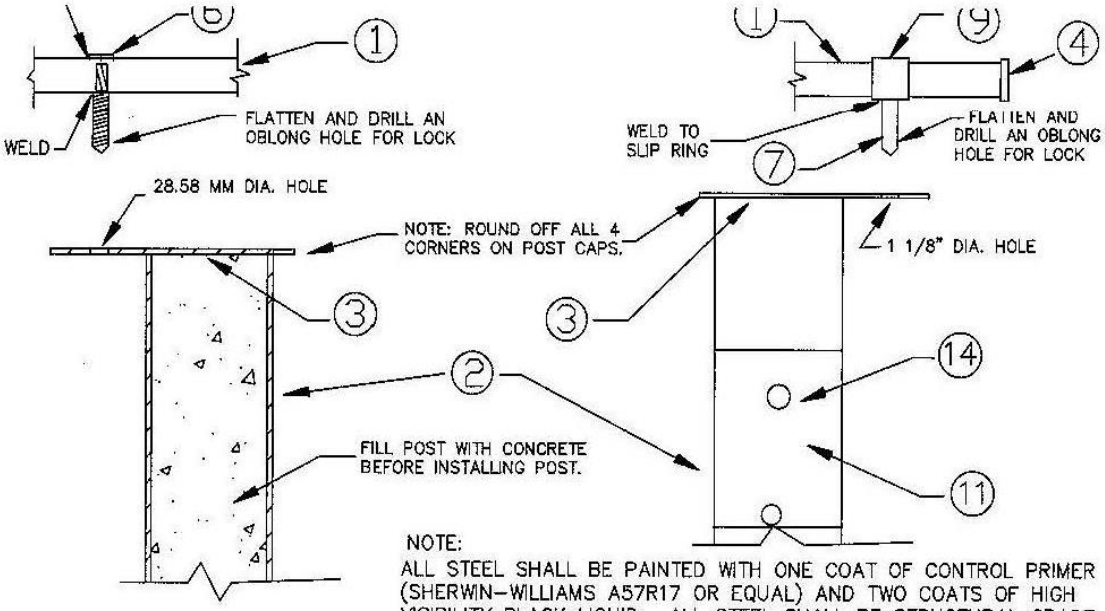
1. Each gate will be installed to the specifications as diagrammed in the images below.

G.1 – GOVERNMENT FURNISHED PROPERTY

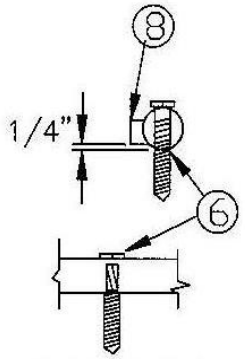
NONE

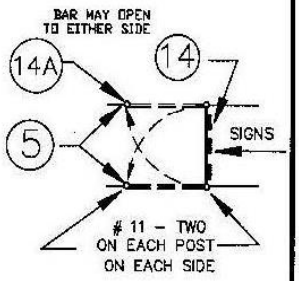
G.S – INSPECTION AND ACCEPTANCE

1. Work will be accepted when the work is completed according to the contractor specifications. If the work completed is accepted, the contractor shall proceed according to the Work Progress Schedule. If the work is not accepted, the contractor shall not receive payment until completing any remedial work required for acceptance. If the area cannot be brought up to specifications, credits or payments will be reduced or not be awarded.



NOTE:
ALL STEEL SHALL BE PAINTED WITH ONE COAT OF CONTROL PRIMER (SHERWIN–WILLIAMS A57R17 OR EQUAL) AND TWO COATS OF HIGH VISIBILITY BLACK LIQUID. ALL STEEL SHALL BE STRUCTURAL GRADE, SCHEDULE 40 UNLESS OTHERWISE APPROVED BY THE ENGINEER.





NO.	NAME	DESCRIPTION	QTY
1	GATE BAR	2" DIA. x 216" STEEL PIPE	1
2	GATE POST	5.047" DIA. x 60" STEEL PIPE	2
3	POST CAP	3/8" X 7 1/2 " X 12" PLATE	2
4	GATE BAR CAP	3/8" X 2 1/2" DIA. PLATE	2
5	V NOTCHED TREATED POST, BURIED 0.61M	4" X 4" x VARIES	2
6	HEX BOLT	1" X 3 1/2"	1
7	STEEL PEN	1" DIA. X 1 1/2"	1
8	WELDED STEEL PLATE	1" X 1" X 1/4"	1
9	SLIP RING	2 1/8" I.D. X 3" PIPE	1
10	0.61 M X 20.32 C	BM–L–R BM–R–R	1 1
11	OBJECT MARKER 0.15 M X 0.31 M	OM–2–B	8
12	ROAD CLOSED SIGN, 0.61 M X 0.31 M	FR11–2–24	1
13	SIGN FASTENER, POP RIVETS OR BOLT DEFORM THREADS	3/16"	12
14	ROUND HEAD BOLTS W/NUTS AND WASHERS,	3/16" x 1"	8
14A	WOOD SCREWS	3/16" X 1"	8
@15	CONCRETE FOR POST	CUBIC YARD	.77

DENOTES FILLET WELD, WELD ALL AROUND

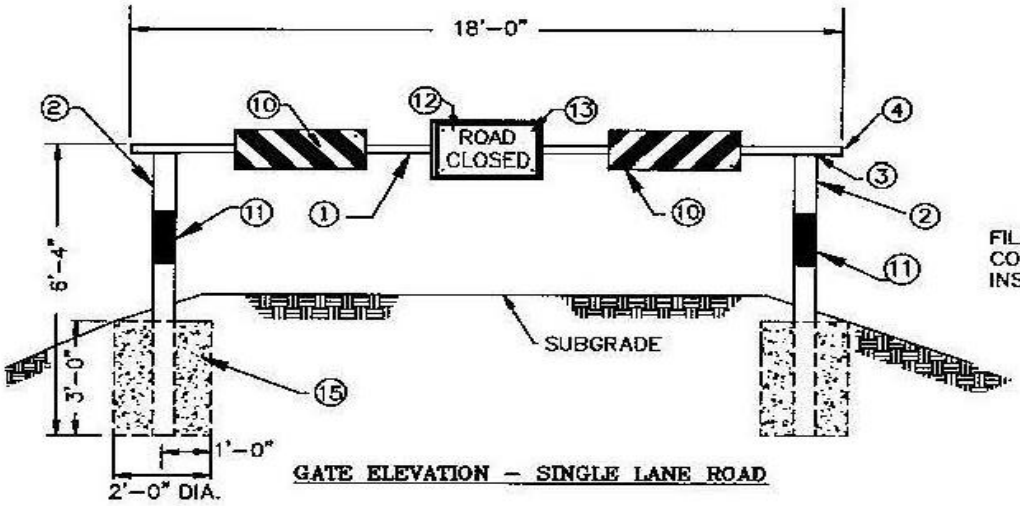
@ALL CONCRETE SHALL MEET REQUIREMENTS OF ITEM 601.

NOT TO SCALE

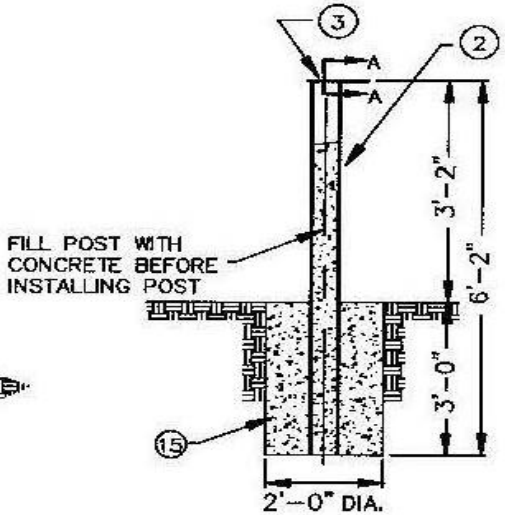
SHEET TITLE: GATE DETAILS	DRAWN BY: CL CHECKED BY: PHP	PROJECT NO.	ISSUE / DATE / DESCRIPTION

PROJECT: OCONEE ROADS
LOCATION: OCONEE NF
FOREST: CHATTAHOOCHEE-OCONEE NF

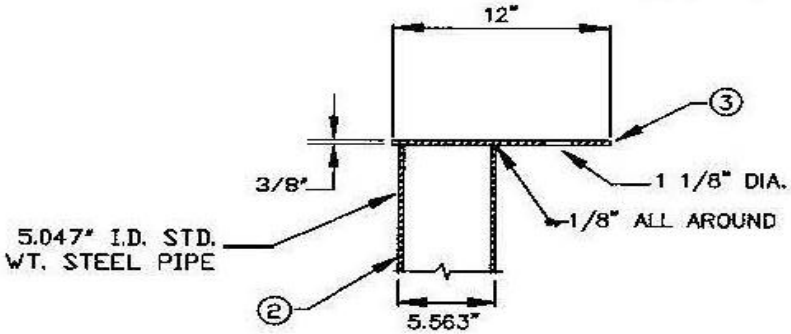
FOREST ENGINEER
DISTRICT RANGER
FOREST SUPERVISOR



GATE ELEVATION – SINGLE LANE ROAD



POSTS DETAIL



SECTION A–A

Item 07 – Wildlife Habitat Improvement

GENERAL SPECIFICATIONS

The contractor shall provide all personnel, equipment, tools, supervision, and other items and incidental services necessary to perform the project work. The location of the project work is located across the Oconee National Forest

Wildlife Habitat Improvement-Native Grass and Pollination Restoration & Control of NNIS

Wildlife habitat improvement areas (openings) will be created within designated areas of harvest units. In order to meet LMP objectives, additional wildlife openings are needed to provide for habitat diversity and connectivity. 50 acres will be restored wildlife openings within project area compartments. 10 acres will be mowed, limed, and planted. Each of the 50 wildlife openings is planned to be about one–five acres in size. Treatment of non-native invasive species (NNIS) is part of the restoration process of bring back the natives across the National Forest. Several species of invasive plants currently exist within these areas. A combination of mechanical, manual, and chemical methods will be used to eradicate these species. Seeding of pollinators and grasses will follow NNIS management to promote native insects such as bees, butterflies and hummingbirds within the openings. Native grasses will be planted during the period of April 15 – June 15 using pure live seed (PLS). A cover crop or mulching may have to be implemented as a temporary cover until the native grasses can be planted. Approximately acres/year will be treated over the life of the three year project. This work will be included as a service embedded within the project. Estimated cost, locations, and treatment type are listed below. Cedar Creek Wildlife Management Area – clearing of landing in preparation for seeding.treatment of NNIS (10 acres/$265.00 per acre), seeding grasses, pollinators ($99/20 lbs) and cover crop species ($60.00/50 lbs) total of $500.00 adding lime ($90/ton- 1ton/per acre).

10 acres cleared and soil prep for restoration -- $225/hour-	$5,400.00
Seed for 10 acres (native pollinators and grasses (9 lbs/ac)90 lbs@	$445.00
Cover crop at @20 lbs per acre—millet/wheat –200 lbs @	$240.00
Herbicide treatment of fescue and other NNIS----$225/ac (est-5ac) @	$1,125.00
Liming- $90/ton--@	$900.00
Total estimate for supplies	$8,110.00
Mowing of 50 acres --$225 (openings within the WMA)	$11,250.00
Grand total:	**$19,360.00**

Rehabilitation of Wildlife Openings

GENERAL SPECIFICATIONS

These areas/openings currently support non-native grasses and unwanted brambles. The purpose of this treatment is to provide an improved and more desirable supplemental forage opportunity on these sites than what is currently present. The treatment will consist of brushing of encroaching vegetation, removal

of the non-native Invasive species and weedy vegetation by foliar spray applications using approved herbicide mixtures, followed by disking, fertilization and planting native grasses, perennial cover species, and non-persistent cover crops within the openings.

PART I. SECTION C, SPECIFICATIONS

C. 1 - SCOPE OF CONTRACT

The contractor shall furnish all equipment, labor, transportation, supervision, and perform all work required for **Rehabilitation of wildlife openings** on the Oconee National Forest in accordance with the specifications and provisions of the contract.

C.2 - DESCRIPTION AND LOCATION

The project consists of cutting and spraying encroaching unwanted vegetation and disking, fertilizing and planting the specified seed mix listed below. **More specific maps can be provided upon request.**

TECHNICAL SPECIFICATIONS

General Herbicide Application Specifications (see Appendix 1 for more information)

1. The predetermined areas will have all of the unwanted vegetation cut if necessary and sprayed with an approved herbicide application rate (see Appendix 1).
2. All pesticide **daily** use log will be completed and submitted to the SWR.
3. After the area has browned from herbicide, indicating at least 95% of the vegetation has been killed; the area will be disked, tilled and/or ripping to a depth of 6 inches.
4. The areas will then be seeded within one month of ground disturbance with the seed mix listed below, depending on the season.
5. Prior to planting, the label of seed will be provided and approved by the Forest Service

Fall seeding only, specified fertilizer shall be applied and thoroughly mixed with the soil prior to seeding. Wheat straw, pine straw, or shredded bark mulch shall be applied at a rate of 3000 pounds per acre where designated by the Forest Service (Only weed-free mulch shall be used).

Revegetation Plan and Specifications, Seeding Season(s) Table

Seeding Season	From Date*	To Date*
Spring	April 15th	June 15th
Fall	September 1st	November 1st

**Dates could change if agreed upon by the Forest Service.*

Revegetation Plan and Specifications, Fertilizer and Seed Table

Seed shall be planted between 1/8 to ¼ inch deep.

Spring Season – April 15th – June 15th*

Fertilizer	Pounds/Acre
N/A	N/A

Seed	Pounds/Acre
Brown top millet[1]	10+
Switchgrass 'Alamo' [2]	4
Big bluestem 'KY ecotype' or 'Kaw'[2]	4
Indiangrass 'Americus' or 'KY ecotype'[2]	4

[1] Spring Oats may also be used at 30 lbs per acre

[2] Can use locally collected seed

Fall Season – September 1st – November 1st*

Fertilizer	Pounds/Acre
10-10-10 or equivalent	500

Seed	Pounds/Acre
Crimson clover	15
Hairy Vetch	15
Wheat	60

Optional Seed Mixtures (by agreement):

- Southeast Upland Mix developed by Project HELP for established openings.
- Seed of local (Georgia/Southeastern) ecotypes.

Native grass seeding rates are based on pounds of pure live seed (PLS) per acre.
Optional sources for Native Grass Seed:

- www.ernstseed.com (Earnst Conservation Seed).
- www.roundstoneseed.com (Roundstone Native Seed)
- www.rockspringfarm.com (Rock Spring Farm)

Quality Control Plan

The technical proposal (appendix B) section that addresses RCW cavity maintenance at a minimum shall contain the following items.

Plan Contents

Inspection System: An inspection system must specify the areas to be inspected on either a scheduled or unscheduled basis, how often inspections will be accomplished, and the title of the individual(s) who will perform the inspection. The inspection system must provide for a written record of inspections and results.

Methods: The methods for identifying and preventing defects in the quality of service performed before the level of performance becomes unacceptable.

Training and Supervision: A training and supervision plan explaining Contactors plans for crew supervision and training employees.

G.1- GOVERNMENT FURNISHED PROPERTY

NONE

G.2. INSPECTION AND ACCEPTANCE

Inspection
The contract will inform the Forest Service of when they will be starting work. A Forest Service Repetitive may accompany the contractor at any time they are doing work on Forest Service Land. A Forest Service Representative will need to inspect and insure at least a 95% kill on unwanted vegetation prior to tilling, disking or ripping occurring. A Forest Service Representative will also need to be on site when seed planting occurs unless agreed upon by the Forest Service. The inspection system must provide for a written record of inspections and results.

Acceptance
A herbicide kill rate of 95% will need to be accomplished prior to ground disturbance. The Forest Service will not accept the work of the contractor for planting until it is determined that adequate green up has occurred from the planted seed.

GUIDELINES FOR MOWING WILDLIFE OPENINGS,

The following are specific guidelines for restoration and improvements for dispersed areas such as hunt camps, wildlife openings, and range allotments (Vacant or Closed) on the Oconee Ranger District of the Chattahoochee-Oconee National Forest. The hunt camps and allotments are part of a control effort to eradicate non-native invasive weeds (NNIS) and are located on the Oconee Ranger District in within the Piedmont section of Georgia. The majority of areas are located in Greene County. Maps will be provided.

The wildlife habitat areas (Wildlife openings) that are to be treated will be mowed and are mapped with the locations provided by the Oconee Ranger District wildlife technician. There are approximately 50 acres of areas to be mowed (see attachment A and B). The appropriate supplies for mowing the wildlife openings will not be provided by the Government. Appropriate equipment, supplies, and labor will be furnished by the contractor.

MOWING MAINTENANCE OF OPENINGS and NNIS TREATMENTS

1) Any trees or parts of trees that have fallen in openings or non-native species present- will be removed before mowing by the Contractor. No green trees larger than 5 inches in diameter will be cut without permission of a Forest Service employee. The contractor should walk over an area prior to mowing. NNIS species should be sprayed prior to mowing and after mowing (if the stumps are visible). Camp rings and large pieces of metal, rock, etc. may have been dumped. The large pieces of debris (metal, tires, etc.) are to be removed from the site by Contractor. Some areas may be less debris and NNIS than others, however, treatment to eradicate the NNIS is crucial. Depending on the season different treatments need to be applied. Those treatments for NNIS are in the Appendix 1.

2) All designated areas will be completely mowed by a rubber tired tractor with mower (6’ or wider).

Grasses should not be mowed lower than 4 inches this will protect clover and other legumes. Within the Wildlife openings we would prefer that contractor starts mowing from the center out to the edges leaving one width of the mower from the edge for insect availability for turkey poults and quail.

3) All Safety equipment must be included with the tractor. Roll bar is required. A safety inspection should be done prior to operating the tractor to make sure the brakes have no fluid leaks, and other equipment is functioning properly. Fuels should not be poured on the ground. During inspections, if gas and oil residue is found the contractor will be required to clean up the area.

4) Flagging tape may mark trees or shrubs that are soft or hard mast producing. If these are damaged by mowing, the contractor will be held liable for the cost of that tree or shrub. The color of flagging tape will be pink. Forest Service Inspector will remove the flagging tape during inspections. Inspector may flag the entrance to the areas where mowing is to be done when area is located off the main roads. The flagging color will be blue and will have identification of area by number on the flagging tape.

5) All trash will be the responsibility of the contractor to discard of properly. No empty bags of trash will be left near any of the project sites. The district office will provide garbage bags if needed.

6) Most areas will be opened for the Contractor prior to mowing. An employee from the Forest Service will be available to unlock the gates to the openings and allotments. All hunt camps are opened. The contractor will need to let the Forest Service inspector know when they will need the gates opened. The contractor is to lock gate after they have finished the mowing.

7) Any adjustments or alterations to these specifications must be discussed and agreed upon in writing by Forest Service COR and operator before any activities in the field are carried out.

GUIDELINES FOR LIMING ZONE WILDLIFE OPENINGS

The following are specific guidelines for lime treatments to permanent quality wildlife openings on the Southern Zone of the Chattahoochee-Oconee National Forest. The wildlife openings are located on the Oconee Ranger District in within the Piedmont section of Georgia.

The Oconee National Forest has several acres of wildlife openings. This year we have several openings that need lime. There are approximately 51 acres. The wildlife openings that are to be treated with lime are marked and identified by flagging with specific directions provided by the Oconee Ranger District. The supplies and lime needed for doing the contract will be purchased by the contractor. The equipment and labor will be the responsibility of the contractor.

FOR LIMING SPECIFICATIONS

1) All designated quality permanent and restored wildlife openings will be completely limed by a spreader truck or rubber tired tractor with a spreader.

2) All openings will be limed at a rate of 1 ton per acre.

3) Flagging tape will be removed after the liming is done.

4) All empty bags of lime or trash will be the responsibility of the operator to discard of properly. No empty bags will be left in or around openings.

5) Access gates and locks going to wildlife openings will be the responsibility of the operator tending the openings. These gates and locks will remain closed and locked while the operator is tending openings. This is to keep other individuals from being locked in behind gates if they may happen to venture in by vehicle. No keys loaned to the operator may be duplicated for the locked gates accessing openings.

6) Any adjustments or alterations to these specifications must be discussed and agreed upon by the Forest Service and operator before any activities in the field are carried out.

GUIDELINES FOR Planting-Wildlife Habitat Areas

The following are specific guidelines for maintaining or reseeding permanent quality wildlife openings on the Southern Zone of the WMA on Oconee National Forest. The wildlife openings are located on the Oconee Ranger District in within the Piedmont section of Georgia.

The wildlife openings that are to be treated with lime are mapped and the locations will be provided by the Oconee Ranger District. The appropriate supplies and lime for the wildlife openings will be purchased by the Government. Appropriate equipment and labor will be furnished by the contractor.

FOR MAINTENANCE OF OPENINGS

1) All designated quality permanent wildlife openings will be completely mowed by a rubber tired tractor with "Bush-Hog" mower. Any trees or parts of trees that have fallen in openings due to high winds, etc., will be removed before mowing.

2) All openings will be fertilized immediately after mowing with 300 lbs. per acre of 10-10-10 fertilizer. This will not be done several days after mowing.

3) If openings are in poor condition that render little or no planted species of grasses and or clover, then the opening may not need fertilizing. This would occur on openings that have Crabgrass, Broomsedge or other wild plant species. If only small parts of the openings have these species, then it would be feasible to go ahead and fertilize openings.

FOR RESEEDING OF OPENINGS

1) Some wildlife openings will require reseeding because of failure or the encroachment of undesirable plant species or bare soil. These openings will be listed and will require special treatment that follows.

2) All openings listed to be reseeded will be completely plowed and smoothed before applying seed and fertilizer. These openings may require plowing more than once to reduce large clods of dirt and unwanted vegetation.

3) Immediately after the plowing is completed and the seedbed is prepared correctly, the specified mixture of seed and 400 pounds of 10-10-10 fertilizer will be applied by use of seed and fertilizer hopper/spreader. This is not to be done days or weeks later after plowing, but on the same day.

4) All empty bags of seed and fertilizer will be the responsibility of the operator to discard of properly. No empty bags will be left in or around openings.

5) Access gates and locks going to wildlife openings will be the responsibility of the operator tending the openings. These gates and locks will remain closed and locked while the operator is tending openings. This is to keep other individuals from being locked in behind gates if they may happen to venture in by vehicle. No keys loaned to the operator may be duplicated for the locked gates accessing openings.

6) Any adjustments or alterations to these specs must be agreed upon by the Forest Service and operator before any activities in the field are carried out.

INSPECTION AND ACCEPTANCE

1) Inspection of work performance under this contract shall be made by the Contracting Officer's Representative or the designated inspector as the work progresses at such intervals as are necessary to insure compliance with the contract specifications and provisions.

Upon completion of work on an area, the Contractor shall notify the COR that work in the area is completed and the COR shall make an overall inspection of the work completed. If the work completed is accepted, the Contractor shall proceed with work on the next area. If the work is not accepted by the COR, the Contractor shall complete any remedial work required prior to commencing work on the next area.

2) Unsatisfactory Work

In the event any of the work does not meet the specifications through the fault or negligence of the Contractor, such work shall, upon request of the COR, be made to conform to specifications by the Contractor at his expense. Cost of re-inspection by the Government will be charged to the Contractor.

3) Basis of Payment

Payment will be made upon satisfactory completion of the work as described and accepted by the Contracting Officer.

Areas to Be Treated:

Compartment		Description	Acres
121		Hillsboro	5.8
124		Road #1067	0.9
127		Dumas Tract	1.6
128		Miller Creek (A)	1.2
128		Miller Creek (B)	0.8
128		Miller Creek (C)	0.5
128		Miller Creek (D)	1.0
128		Miller Creek (E)	0.5
132		Landings	5.0
140		Mathis Fire Tower	1.0
143	rehab/plant	Landings	4.0
144		Glenwood Springs Road	1.3
145	rehab/plant	Landings	2.0
146	rehab/plant	Landings	2.0
151	rehab/plant	FSR1057	2.0
154		Little Glady	1.1
156		Helibase	4.3
156		Dellar	0.8
156		Clover	0.3
156		Work Center	0.4
Total----------			50.0--

See the enclosed maps.

Appendix 1 – General Herbicide use

The contractor shall have both a Contractor's license and professional applicator's license with the State of Georgia (Georgia State Pesticide Contractor's license). All Contractor crew leaders must be certified to apply herbicides in the state of Georgia and must be on-site at all times (Georgia State Pesticide Applicator's license). Crew leaders must be certified in the category related to the project (e.g. Forestry, Aquatics, Right-of –Ways). Documentation of certification must be provided.

Typical herbicides used will be:

Glyphosate (Accord™, Roundup™, and Rodeo™);

Triclopyr (Garlon 3A™, Garlon 4™, Pathfinder II™, and Renovate™);

Clopyralid (Transline™);

Imazapic (Plateau™);

Imazapyr (Arsenal™, Chopper™, and Habitat™);

Sethoxydim (Poast™).

TECHNICAL SPECIFICATIONS

1. Herbicide will be applied in accordance with the label instructions.
2. The table below summarizes the expected application rates for each herbicide that may be used.

Cut Stump Application				
Herbicide	**Lbs a.i./gallon**	**% (Fraction) in Solution**	**Gallons of Spray/Acre**	**Lbs a.i./acre**
Glyphosate	5.4	50.0%	0.65	1.8
Imazapyr	2.0	9.0%	3.0	0.6
Triclopyr (amine)	3.0	50.0%	2.5	3.75
Foliar Spray Applications				
Herbicide	**Lbs a.i./gallon**	**% (Fraction) in Solution**	**Gallons of Spray/Acre**	**Lbs a.i./acre**
Glyphosate	5.4	3.0%	8.3	1.3
Imazapyr	2.0	0.55%	15.0	0.17
Triclopyr (amine)	4.0	4.0%	12.5	2.0
Triclopyr (ester)	4.0	4.0%	12.5	2.0
Clopyralid	3.0	0.5%	44.0	0.26

1. Weather will be monitored and herbicide application suspended if temperature, humidity, or wind becomes unfavorable as follows:

Application Method		Temperature Higher Than	Humidity Less Than	Wind (at target) Greater Than
Ground	Hand (cut surface)	N.A.	N.A.	N.A.
	Hand (other)	98° F	20%	15 mph
Mechanical	Liquid	95° F	30%	10 mph
	Granular	N.A.	N.A.	10 mph

2. Liquid herbicide applications will include a compatible dye (blue).
3. Herbicide will not be applied within 100 horizontal feet of lakes, wetlands, or perennial or intermittent springs and streams. ***NNIS being eradicated within this buffer will require the use of an aquatic-labeled herbicide.***
4. Herbicide mixing, loading, or cleaning areas in the field will not be located in sensitive areas or within 200 feet of private land, open water, or wells. ***If sensitive areas are present, they will be indicated on a map.***
5. Herbicide mixing, loading, or cleaning areas in the field will be located at least 50 feet from ephemeral streams.
6. Application equipment, empty herbicide containers, clothes worn during treatment, and skin will not be cleaned in open water or in wells. Mixing and cleaning water must come from a public water supply. Containers for transporting mixing water must be separate from containers for transporting cleaning water, and all containers must be appropriately labeled.
7. Generally, herbicide application will occur sometime between May and December. However, applications may occur at anytime of the year depending on the species and type of treatment.
8. During herbicide treatments, the Contractor will post "Public Notice" signs around each treatment area. The signs (furnished by Government) should be filled out with specific treatment information and posted (usually stapled to a tree) in an easily seen location near the access point to each treatment area. Also per label directions, the site may be temporarily closed and will be signed accordingly. Signs will be removed after sprays have sufficiently dried.
9. No soil-active herbicide (with a half-life longer than three (3) months) is applied within 25 feet of ephemeral streams.
10. No soil-active herbicide is applied within 30 feet of the drip line of non-target vegetation (such as wildlife den trees, hardwood inclusions, or adjacent stands) that is specifically designated for retention within or next to the treated area
11. A daily log must be kept recording the following:
    a. Date
    b. Name of licensed commercial applicator (first and last name)
    c. Names of other licensed applicators and non-certified applicators
    d. Time of day (start time and stop time based on a military clock)
    e. Treatment location
    f. Approximate acres treated (actual extent in acres of pesticide application)
    g. Treatment method/equipment used
    h. Contract Line Item
    i. Target invasive species
    j. Herbicide
        (1) chemical used (product name)

(2) quantity of herbicide (calibrated volume, volume applied, and unit of measure – including carrier and dilutant)
(3) product rate (label rate in which the product is applied (oz/acre)
(4) adjuvant if any used (product name & rate applied).

k. Weather information
(1) air temperature (°F)
(2) relative humidity (percent)
(3) wind speed and unit of measure (MPH or knots)
(4) wind direction (E, N, NE, S, SE, SW, W, NW)
(5) daily precipitation (inches).

Foliar Spray

1. Foliar application of herbicide will be used for trees, shrubs and woody vines less than 6 feet tall, as well as for grasses, and other low-growing herbaceous vegetation.
2. Herbicide will be applied to target vegetation only.
3. Herbicide will be applied such that leaves are wet, but so that there is no herbicide runoff from the treated foliage.
4. Foliar spray will occur after the leaves are fully expanded.
5. Foliage will not be sprayed during rain events, when rain is imminent, or when leaves are still wet from recent rain.

Basal Bark Streamline

1. A backpack sprayer, pump-up, or compression sprayer equipped with a handgun applicator and nozzle that provides a directed straight stream or a wick applicator will be used for basal bark streamline herbicide application.
2. Herbicide will be applied in a band such that the lower 12 to 18 inches of bark above the ground level is wet on all sides. Only vegetable oil will be used. No kerosene or diesel oil will be used as an adjuvant.

Mechanical Methods – Cutting /Mowing

1. Cutting or mowing will be accomplished using string trimmers, rotary mowers or drum cutters, predominately in wildlife openings.
2. Cutting/mowing will be carried-out before the plants are fruiting, to prevent seed dispersal. **Time of year for these methods is specified in the attached table.**

Manual with Herbicide Methods

Cut-stump/Cut-surface

1. Trees, shrubs and woody vines equal to or greater than 6 feet tall shall be cut before the herbicide is applied, with the cut being less 6 inches or less above the ground.
2. Sawdust will be removed from cut surfaces before the herbicide is applied, to minimize deactivation of the herbicide.
3. For stems/stumps greater than 3 inches in diameter, completely wet the outer 1 inch of the cut surface with herbicide mixture.
4. Completely wet tops of cut surfaces that are 3 inches or less in diameter, including cut stems in a clump.
5. Herbicide will be applied to cut surfaces as soon as possible after cutting, but within 20 minutes at the longest.
6. Trees, shrubs, and woody vines to be stump sprayed will not be cut during rainfall, and those that are already cut will be stump sprayed immediately.

7. Trees, shrubs, and woody vines will not be cut and stump sprayed when the air temperature is 32 degrees or less.
8. There may be occasions (for example, autumn olive along a road) where the tops of the cut trees or shrubs will need to be removed from the site. **If this is required, it will be specified.** Vines in trees should remain in place due to safety concerns.

Hack and Squirt/Injection

1. Cuts will be made so that they encircle the tree stem with gaps, no wider than one inch between cuts. If injector cuts cannot be made at the proper interval on multi-stemmed trees, then an attempt will be made to compensate by injecting below-size stems on the same clump.
2. Cuts will be horizontally angled, thus forming a pocket to hold the herbicide.
3. Cuts will pierce the bark and penetrate into the wood.
4. Herbicide solution will be metered into each cut at a rate that will achieve the application rate required or according to label direction.
5. Cuts will be within five (5) feet off the ground and will be at the same level on an individual tree.
6. The herbicide will be thoroughly agitated before filling the injector, squirt bottle, or sprayer.
7. Trees will not be injected when the air temperature is 32 degrees or less, or during or within one (1) hour after heavy rainfall. Heavy rainfall is that which might dilute or wash out herbicide within injector cuts.
8. Stems within treatment specifications that are too small for an herbicide treatment using an injection or hack and squirt method of application shall be severed and herbicide applied according to label directions for the cut-surface method of application.

Bush Hog with Herbicide (wildlife openings)

1. Wildlife openings may require bush-hogging with a subsequent visit approximately 2 weeks to months later applying herbicide to vegetative re-growth in the opening.

PERFORMANCE ASSESSMENT METHODS AND ACCEPTABLE QUALITY LEVELS (AQL)

Quality/Performance Standards	AQL	Method of Assessment	Penalty for Not Meeting AQL
At least 90% of targeted vegetation is treated; at least 90% mortality of target vegetation and with no more than 10% inadvertent treatment to desirable non-target vegetation.	Minimum of 90% of targeted vegetation treated; minimum of 90% kill rate of treated vegetation; and no more than 10% inadvertent treatment to non-target vegetation.	Visual inspections by SWR or SWI of random locations or transect of the entire area if possible performed during and/or 30 days after application.	Contractors not meeting the minimum 90% kill rate at the final inspection of treated vegetation will be required to reapply herbicide at their expense. If a 90% kill rate is not achieved after the 2nd application, a 5% reduction will be made in the award price and the government may require a third herbicide application at the contractor's expense. If there is more than 10 % inadvertent treatment to non-target vegetation, a 5% reduction will be made in the award price.
At least 95 % of targeted vegetation treated; at least 90% mortality of target vegetation and with no more than 10% inadvertent treatment to non-target vegetation. No trees over 7 inches dbh cut	Minimum or 95% of trees, shrubs and vines 6 feet tall or greater cut within 6 inches; minimum of 90% of cut surface treated on cambium layer for a distance of 1 inch if stem 3 inches or greater diameter; minimum of 95% of stems 3 inches diameter or less including multiple stems in a clump, completely wet by herbicide; and no more than 10% inadvertent treatment to non-target vegetation	Visual inspections by SWR or SWI of random locations or transect or the entire area if possible performed during and/or 30 days after application.	Contractors not meeting the minimum 95% kill rate at the final inspection of treated vegetation will be required to reapply herbicide at their expense. If a 95% kill rate is not achieved after the 2nd application, a 5% reduction will be made in the award price and the government may require a third herbicide application at the contractor's expense. If there is more than 10 % inadvertent treatment to non-target vegetation, a 5% reduction will be made in the award price.
All daily logs are completed and submitted to the SWR	100% of the daily logs are completed and submitted.	Acceptance of daily log by SWR or SWI prior to payment.	All completed daily logs must be accepted for any partial and, final payment.

Appendix 2 – Pesticide Emergency Spill Plan

Field personnel transporting or working with pesticides should familiarize themselves with this plan, as well as with the labels and MSDSs of all pesticides to be used in a project. A copy of this plan is to be carried to the field by all crews working with pesticides; a copy is also to be kept in an easily accessible location near the telephone at the district dispatch or reception desk.

Emergency procedures to follow when a pesticide spill occurs at the work site:

1. PROVIDE FOR CARE OF INJURED OR CONTAMINATED PERSONNEL

Immediately determine if any personnel are injured or contaminated. Each situation may differ, but the major and immediate effort should be to assist injured personnel and minimize further contamination. Accordingly, the following must be accomplished as rapidly as possible.

a) If a fumigant or dangerous vapor is involved, put on the appropriate respirator or breathing device. REMEMBER, this is an emergency procedure, and not intended for prolonged exposure. Since many pesticides can produce toxic fumes or vapors, always ventilate enclosed areas to prevent build-up of toxic fumes.
b) Remove injured or contaminated personnel from the spill site to a safe area (up wind or up slope).
c) Remove contaminated clothing from affected individuals, and wash pesticides off skin with detergent and clean water. If eyes are contaminated with a pesticide, flush eyes out with portable eyewash bottles or clean water. If any pesticides have been ingested, see Material Safety Data Sheet for specific first aid measures.
d) Immediately seek medical assistance for injured and contaminated personnel. If possible do not leave contaminated individuals alone unless essential to initiate Emergency Medical Services.
e) Watch for the following symptoms of pesticide poisoning: Eye irritation, skin irritation, gastrointestinal discomfort, dizziness, headache, nausea, vomiting, diarrhea, slurred speech, muscle twitching or convulsions, or difficulty in breathing.

2. SPILL IDENTIFICATION

Determine product name(s) for the chemical(s) spilled and check the label and Material Safety Data Sheet for immediate hazards. Shut off ignition sources and stop any smoking in case chemicals may be flammable. Isolate contaminated area and keep unnecessary people away. If unable to determine the product name at a safe distance initiate EMS immediately

3. NOTIFY (Field personnel contact dispatcher/receptionist for aid)

District Pesticide Specialist: Hector Socias

Office – 706-485-7110 ext 107

Cell – 706-485-0865

District Safety Officer: Hector Socias

Office – 706-485-7110 ext. 107

Give as much of the following information if available: *****Chemical name, ***location of spill, ***compartment number and ***stand number (if known), ***road name, and ***estimated size of spill in gallons.**

The District Pesticide Specialist will notify other key personnel and agencies as required (see attached notification list).

4. CONTAIN SPILL

Spilled pesticides must be contained as much as possible on the site where the spill has occurred. If safe to do so, keep spilled pesticides from entering streams, storm drains, wells, ditches, or water systems by following these procedures:

a) Wear appropriate protective clothing. At a minimum, this will include suitable clothing for pesticide application, plus rubber or nitrile gloves and safety glasses or goggles. In addition, use coveralls or a rain suit, rubber boots or overshoes, or a respirator if extra protection is needed.
b) Prevent further leakage from containers by repositioning them so that the damaged part of the container is above the level of the contents, or by applying rags, tape, or other materials at hand to temporarily seal the leak.
c) Separate leaking containers from undamaged containers.
d) Rope or flag off the area and post warning signs to keep unprotected personnel from entering.
e) Confine the spill to prevent it from spreading. Encircle the spill area with a dike of sand or other absorbent material; rags or similar material may be used if necessary. If spilled material may flow toward sensitive areas, divert it by ditching.
f) If the spill involves a small watercourse, dam it up to confine the spill if possible. If available, activated charcoal may be used to filter contaminated water. For larger waterways, a log boom or baled straw may be used to contain the spill. Dam or divert the flow of clean water around the spill if possible. Some pesticides (such as Glyphosate and Diquat) may be inactivated by muddying the water.
g) If the pesticide spilled is a liquid, cover it with absorbent material (kitty litter is ideal). If the spilled pesticide is in a dry formulation, cover it with a secured plastic tarpaulin to prevent it from becoming wet or being blown away. (NOTE: Unless this material can be reused in accordance with the pesticide label, it must be disposed of as a toxic waste.)
h) DO NOT flush the spill into a ditch, sewer, drain, or off a road, since this will further spread the chemical necessitating a larger cleanup effort.

5. CLEAN-UP

Spill containment is the objective of this emergency spill plan. Cleanup and disposal procedures are covered in FSH 2109.14, Chapter 33, Project Safety Plan; in the 2012 Emergency Response Guidebook, and in the Material Safety Data Sheets for each pesticide.

6. DOCUMENTATION

Document spill type, action taken, and any needed follow-up or assistance necessary in a letter to the Forest Supervisor, with cc to Regional Pesticide Specialist.

SUMMARY OF CLEAN-UP STEPS

DRY SPILLS

a. Immediately cover powders or dusts with plastic or a tarpaulin to prevent the pesticide from becoming airborne. A fine mist of water may also be used to dampen the dust and reduce spreading. CAUTION: Too much water may dissolve the pesticide and move it into the soil.
b. Sweep the material together, rolling the tarp back slowly as you do.
c. Shovel the material into plastic bags or drums.
d. Seal the bags and label them, identifying the pesticide and other contents.

e. Store the containers of material in the pesticide storage building until the contents can be evaluated for disposal or re-use in a manner consistent with labeling.

LIQUID SPILLS

Pump or bail as much of the spilled liquid as possible into containers, then:

a. Use absorbent material, such as commercially bagged clay, kitty litter, or sawdust to soak up the spill.
b. Shovel the absorbent material and pesticide, along with any contaminated soil, into leakproof containers. Label all containers.
c. Store the containers in the pesticide storage building until the contents can be evaluated for disposal or re-use in a manner consistent with labeling.

NOTIFICATION LIST OF KEY PERSONNEL AND AGENCIES

1. District Pesticide Specialist: Hector Socias
   Office: 706-485-7110 ext. 107

2. District Safety Officer: Hector Socias
   Office: 706-485-7110 ext. 127
3. Fire Department 911

4. Forest Pesticide Specialist: Mike Brod
   Office: 770-297-3020

5. Forest Safety Officer: Francine Cruz
   Office: 706-297-3065

6. State office of emergency services: GEPD Emergency Response
   (800) 241-4113
   (404) 656-4300
   http://www.dnr.state.ga.us/dnr/environ/
   (Notify only if assistance is necessary or if required by state law)

7. USFS Region 8 Spill Coordinator: Walt Sternke
   Office – 404-347-3369
   wsternke@fs.fed.us

8. Pesticide manufacturers: Riverdale (Tricopyr and Glyphosate) 1-800-424-9300 (Chemtrec)
   BASF (Imazapyr) 1-800-832-HELP

9. CHEMTREC - EPA number for technical assistance: 1-800-424-9300

10. EPA National Emergency Response Center: 1-800-424-9346
    (Notify only if the spilled chemical is on the CERCLA Consolidated Chemical List)

11. Pesticide Safety Team of the National Agricultural Chemicals Association (for technical assistance): 513-961-4300

RECOMMENDED PESTICIDE SPILL KIT CONTENTS

Storage Facility Kit

4 pairs nitrile gloves

2 pairs unvented goggles

2 respirators and cartridges (chemical resistant)

2 pairs rubber or neoprene boots or overshoes

2 pairs of coveralls or rain suits

1 roll of flagging or engineers' tape

1 dust pan

1 shop brush

1 dozen polyethylene bags with ties

1 gallon liquid detergent

1 polyethylene or plastic tarp

100 feet of rope

10 blank labels

1 ABC-type fire extinguisher

80 lbs absorbent material

3 gallons household bleach

1 square-point "D" handled shovel

1 55-gallon open-head drum, or 50-gallon plastic trash can with lid

1 18-inch push broom with synthetic fibers

1 bung and 1 bung wrench for 2.5 inch and 0.75 inch bungs

1 drum spigot

30 ft. of .5 inch polyethylene tubing or 150 feet of garden hose

Vehicle Kit

2 pairs nitrile gloves

1 pair unvented goggles

1 respirator and cartridges

1 pair of rubber or neoprene boots

1 dust pan

1 shop brush

6 polyethylene bags with ties

1 pint liquid detergent

1 polyethylene or plastic tarp

10 blank labels

1 ABC-type fire extinguisher

10-30 lbs. absorbent material

2 eyewash bottles

1 round-point shovel

1 portable weatherproof container for storage and transport (may also be used for cleanup)