

| AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT | | | | 1. CONTRACT ID CODE J | PAGE OF PAGES 1 |
|--|---|---|---|---|--|
| 2. AMENDMENT/MODIFICATION NO. 0001 | 3. EFFECTIVE DATE 10-Oct-2005 | 4. REQUISITION/PURCHASE REQ. NO. | | 5. PROJECT NO.(If applicable) Dalmado | |
| 6. ISSUED BY CODE W912P8 USACE, CONTRACTING DIVISION ATTN: CEMVN-CT, ROOM 172 7400 LEAKE AVE. NEW ORLEANS LA 70118-3651 | | 7. ADMINISTERED BY (If other than item 6) CODE See Item 6 | | | |
| 8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code) | | | | <input checked="" type="checkbox"/> X | 9A. AMENDMENT OF SOLICITATION NO. W912P8-06-R-0002 |
| | | | | <input checked="" type="checkbox"/> X | 9B. DATED (SEE ITEM 11) 09-Oct-2005 |
| | | | | | 10A. MOD. OF CONTRACT/ORDER NO. |
| | | | | | 10B. DATED (SEE ITEM 13) |
| CODE | | FACILITY CODE | | | |
| 11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS | | | | | |
| <input checked="" type="checkbox"/> X The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> X is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified. | | | | | |
| 12. ACCOUNTING AND APPROPRIATION DATA (If required) | | | | | |
| 13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14. | | | | | |
| A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A. | | | | | |
| B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B). | | | | | |
| C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: | | | | | |
| D. OTHER (Specify type of modification and authority) | | | | | |
| E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office. | | | | | |
| 14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) The above numbered solicitation for Chalmette Area Plan Emergency Restoration, MRGO B/L Station 714+55 to 1007+91 Hurricane Protection Levee, St. Bernard Parish, LA is hereby amended to add sections 02318 and 02922. See Continuation Sheet | | | | | |
| Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect. | | | | | |
| 15A. NAME AND TITLE OF SIGNER (Type or print) | | | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) | | |
| | | | TEL: _____ EMAIL: _____ | | |
| 15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign) | | 15C. DATE SIGNED | 16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer) | | 16C. DATE SIGNED 10-Oct-2005 |

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SECTION 02318 - EXCAVATION

PART 1 GENERAL

1.1 SCOPE

The work covered by this section consists of furnishing all plant, labor, equipment, and materials, and performing all operations necessary for stockpiling materials and for excavation in borrow areas, removal of material from embankment foundations, and all other excavation incidental to the construction of embankments as specified herein or as shown on the drawings.

1.2 MEASUREMENT

1.2.1 Excavation

Excavation required by this section will not be measured for payment.

1.2.2 Borrow Pit Development

Borrow pit development required by this Section will not be measured for payment.

1.3 PAYMENT

1.3.1 Excavation

No separate measurement or payment will be made for excavation required by this section, payment shall be included in the contract prices for the items of which the work is incidental.

1.3.2 Borrow Pit Development

Payment for work required for construction access to the borrow pit; clearing and grubbing only the area in the borrow pit required for obtaining borrow material; constructing and maintaining necessary retaining dikes; dewatering operations necessary for excavation and moisture control processing; and removal of retaining dikes in the borrow area upon completion of borrow operations will be made at the contract lump sum price for "Borrow Pit Development".

1.4 QUALITY CONTROL

The Contractor shall establish and maintain quality control for excavation operations to assure compliance with contract requirements, and maintain records of its quality control for all construction operations including, but not limited to, the following:

(1) Borrow Areas. Location, station limits, actual and allowable depths, drainage, and substitute borrow areas. Before and after excavation, the Contractor shall perform in the presence of government representative, plot and submit compliance cross sections to the Contracting Officer at a maximum of 300 feet intervals within the borrow areas with the theoretical sections superimposed thereon.

(2) Disposition of Materials. Testing Program, Location of tested materials (station and lift), and Applicable Compaction Curves.

(3) Ditches. Locations, grade and cross-section.

(4) Traverses. Locations and dimensions.

The original and two (2) copies of these records of inspections and tests, as well as the records of corrective action taken, shall be furnished the Government daily. Format of the report shall be as prescribed in Section 01451, "CONTRACTOR QUALITY CONTROL".

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 EXCAVATION IN BORROW AREAS

3.1.1 General

The Contractor shall submit a written statement to the Government not later than 30 days after receipt of Notice to Proceed of its intention to use the specified Government-furnished borrow area, a Contractor-furnished borrow area, or a combination of Government-furnished and Contractor-furnished borrow areas. The Contractor shall provide the types of equipment as necessary to perform the required excavation according to the in situ conditions of the borrow area.

3.1.2 Government Furnished Borrow Areas

The rights-of-way and earth materials for constructing the work have been furnished, without cost, to the Contractor at locations specified herein and/or shown on the drawings. Borrow pit investigations were performed using industry standard techniques. The results are displayed in the plan drawings in the form of plotted logs and maps indicating the location of the investigations.

3.1.2.1 Criteria

Borrow areas shall conform to the requirements prescribed herein and as shown on the drawings. The permissible depths in the borrow area are indicated on the

drawings. The bottom of the borrow area excavated under this contract shall be left relatively smooth and sloped to provide surface drainage to the low side of the borrow area as soon as all materials have been removed or the Contractor has completed the use of the borrow area. Abrupt changes in grade shall be avoided. Any excavation below the depths and slopes specified herein, or shown on the drawings, shall be backfilled by the Contractor, at its expense, to the specified permissible excavation line, with material placed and compacted in accordance with 02332- 3.2. The borrow areas used for compacted fill under this contract shall be drained and kept dry during excavation. Excavation for compacted fill will not be permitted in water nor shall excavated material be scraped, dragged or otherwise moved through water. Drainage of borrow areas shall be accomplished by ditching, sump pumping or other approved methods. Except as required by variable right-of-way widths, abrupt changes in borrow area alignment shall be avoided. To conserve arable land and make optimum use of available material, excavation shall begin at one end of the borrow and be made continuous across the width of the areas to the required borrow depths. Excavation shall start at the back side of the pit along the length of the pit. The excavation shall be long enough to provide the required quantity of material, and shall be accomplished in such manner that all available material within the required width to full depth, will be utilized.

3.1.2.2 Surveys

The Contractor shall take in the presence of government representative original and final compliance cross sections of the borrow area at a maximum of 300 foot intervals and submit to the Government in accordance with paragraph 1.4(1).

3.2 DISPOSITION OF MATERIALS

3.2.1 Material Used for Embankment or Fill

Borrow pit investigations were performed using industry standard techniques. The results are displayed in the plan drawings in the form of plotted logs and maps indicating the location of the investigations. Excavated materials for embankment fill shall be placed in accordance with Section 02332 –“Embankment”.

3.3 EXCAVATION IN OTHER AREAS

3.3.1 General

Excavation from other areas shall consist of removal of material in preparing the embankment foundations to the lines and grades shown on the drawings, removal of existing levee embankment material required in the benching operation as described in 02332-3.2.1,. Care shall be exercised by the Contractor in excavating to the lines and grades shown so as not to excavate below the grades specified or depth indicated. Excavation below the lines and grades specified or the depth indicated shall be backfilled by the Contractor at its expense. Such backfill shall be brought to

grade with material with each layer placed and compacted as specified in 02332-3.2.1.

3.5 TRAVERSES

Traverses shall be excavated at the edge of the borrow pits when no longer needed so as to provide continuous drainage.

The traverses shall have a top elevation not more than 3 feet or less than 2-1/2 feet above the general level of the bottom of the borrow pits. Ramps shall be constructed with grades not steeper than 10 percent from the crown of the berm to the traverse to natural ground at the outer limit of the borrow pit.

3.6 CONTRACTOR-FURNISHED BORROW AREAS

3.6.1 General

The Contractor, at its option, may use borrow areas other than those indicated provided that their locations and dimensions are approved by the Contracting Officer.

All costs arising or growing out of the use of Contractor-furnished borrow areas shall be borne by the Contractor. The Contracting Officer will exercise strict quality control to assure that the Contractor-furnished borrow sites are of a size sufficient only to complete work covered under this contract. The character of the material therein, as indicated by Government-selected tests of soil samples performed by an approved independent laboratory at the Contractor's expense, must be equal to or better than the Government-furnished borrow material. The Contractor shall submit the information described in paragraphs 3.6.4 and 3.6.5 to the Contracting Officer for review and approval.

3.6.2 Time Extensions

No time extension to the contract completion date will be granted to the Contractor for delays incurred in obtaining Contractor-furnished borrow areas. The Contractor shall be solely responsible for any and all damages, claims for damages, and liability of any nature whatsoever arising from or growing out of the use of borrow areas other than those furnished by the Government.

3.6.3 Approval

Approval of the location and dimensions of the Contractor-furnished borrow area shall neither relieve the Contractor from its obligation to furnish satisfactory material to the project nor commit the Government to the acceptance of the responsibility for the character, quantity, or availability of material in Contractor-furnished borrow areas.

3.6.4 Submittal Package Requirements

The following information shall be submitted by the Contractor in a single, complete package in quadruplicate. The Contractor shall allow a minimum of ninety (90) days, after the receipt of the package, for the Government's review, processing, and approval.

- (1) Property rights documentation.
- (2) Zoning classification.
- (3) Louisiana Department of Transportation and Development (LADOTD) permits or approvals.
- (4) Maps as follows:
 - (a) Location and Direction map.
 - (b) Topographic map(s) with scale of 1:24,000.
 - (c) Layout map with dimensions and property reference points.
 - (d) Soil boring location map.
- (5) Plotted cross sections.
- (6) Soil boring logs and report, and laboratory soil classification test results.
- (7) Cultural resources investigation report.
- (8) Certified agronomist test results.
- (9) Excavation plan.
- (10) Environmental protection plan.

3.6.5 Submittal Package Requirements in Detail

3.6.5.1 Property Rights Documentation

Written evidence that the Contractor has acquired the property rights and access to the proposed alternate borrow area(s) it intends to use on this contract. The written evidence shall consist of an authenticated copy of the land owner's conveyance under which the land owner has acquired the property rights and access thereto, prepared and executed in accordance with the laws of the State of Louisiana; and written evidence that the Contractor has acquired the property rights and access thereto by agreement with the land owner. This agreement between the land owner and the

Contractor may be provisional on the Government's approval of the Contractor's proposed borrow area. If temporary rights are obtained by the Contractor, then the period of time should coincide with the Section 00700 clause entitled *Commencement, Prosecution, And Completion Of Work (FAR 52.211-10)*, plus a reasonable time for any extension granted for the completion of the contract work.

3.6.5.2 Zoning Classification

Written evidence that the property intended for use as an alternate borrow area contains the proper zoning classification that will allow the Contractor to excavate the property and use it as a borrow area. This evidence shall consist of a letter from the local land zoning office stating the zoning classification of the proposed alternate borrow area.

3.6.5.3 Maps

The following maps shall be provided:

- (1) A map of the general area giving detailed instructions on how to get to the alternate borrow area from the nearest major highway.
- (2) A topographic map(s) (quadrangle) with a scale of 1:24,000 with the location of the borrow area superimposed.
- (3) A layout map of the borrow area showing the dimensions of the borrow area, locations of soil borings, and reference points tied to the property boundaries. The map shall show the location and dimensions of any haul road that exists or is to be constructed to help the Contractor in its hauling operation. The map shall also show the location and dimensions of any protection dikes which will help the Contractor drain and keep the borrow area dry.
- (4) The most recent parish surface soils map with the location of the borrow area superimposed.

3.6.5.4 Plotted Cross Sections

Plotted cross sections of the alternate borrow area in sufficient quantity (maximum of 300-ft. intervals) to give a true representation of the topography of the alternate borrows area. The proposed excavation lines shall be superimposed on these cross sections, so that an accurate computation of the available material can be made.

3.6.5.5 Soil Boring Logs and Report, and Laboratory Soil Classification Test Results

Soil borings of the Contractor- furnished borrow area, witnessed by a Government representative, shall be made by the Contractor to a depth of at least 5 feet below the depth of planned excavation. The borings shall be furnished by the Contractor at a spacing that will adequately define the material in the pit but in no case spaced greater than 500 feet on centers. Borings along the proposed borrow area boundary shall be located no farther than one-half of the boring spacing in the pit or 250 feet, whichever is less. Soil samples from these borings shall be classified in accordance with the Unified Soil Classification system and shall include water content determinations based on the dry weight of the representative soil samples, taken at each 2.5 feet of depth of the boring or change in strata. These representative soil samples shall be submitted to an approved independent laboratory, properly labeled and sealed in an airtight container to preserve the natural water content for laboratory determination. The resulting classification and water content determination and borrow area boring logs shall be submitted to the Contracting Officer for determination of the suitability of the material for construction use. Soil boring locations shall be shown on the layout map required by paragraph 3.6.5.3(3).

3.6.5.5.1 Permeability

If examination of the submitted soil samples confirms that the material in the Contractor-furnished borrow area is as or less permeable than the material in the Government- furnished borrow area, the Contractor-furnished borrow material may be used in levee embankment provided the quality of the material is otherwise satisfactory.

3.6.5.6 Cultural Resources Investigation Report

A written report by a professional archeologist which meets the report requirements of the Louisiana Division of Archeology and explains the results of the field investigation made by him of the Contractor-furnished borrow area. The field investigation shall consist of a comprehensive inspection of the proposed borrow area, including access roads, and shall be adequate enough to determine if any cultural resources that are eligible for listing in the National Register will be impacted. This report will be evaluated by the Contracting Officer and the Corps' cultural resources specialists to determine the adequacy of the cultural resources investigation to discharge the Corps' cultural resource responsibilities. The Corps' cultural resource specialist will consult with the Louisiana State Historic Preservation Officer (SHPO) and all other required agencies. All costs of mitigating adverse effects to cultural resources, if required, shall be borne by the Contractor. It is the responsibility of the contractor to ensure that significant cultural resources are not impacted by its proposed excavation.

3.6.5.7 Certified Agronomist Test Results

Written results of tests performed by a certified public or private agronomist to prescribe whatever modifications, if any, will have to be made to Section 02922,

"FERTILIZING, SEEDING AND MULCHING" to insure a satisfactory growth of grass. The substitute borrow area material shall be free of deleterious chemicals which would impede the satisfactory growth of grass. All costs associated with the testing of the alternate borrow area material and modifying the Fertilizing, Seeding and Mulching specification to insure an adequate growth of grass shall be borne by the contractor.

3.6.5.8 Excavation Plan

The Contractor shall provide the Contracting Officer a plan for clearing, stripping, and excavating materials from the proposed Contractor-furnished borrow area. In its plan, the Contractor shall show work areas, stockpile areas, etc, all within its leased or owned property boundaries. The Contractor shall not work or move material outside the boundaries of the approved limits of its borrow area. The Contractor shall indicate in writing and show on its layout plans details of the following:

- (1) A stockpile plan for cleared and stripped material and debris to include disposal areas.
- (2) The locations for disposal of wasted material discovered in the borrow area. Location of any haul roads constructed to help the Contractor in its hauling operations.
- (3) A plan for stockpiling embankment material before it is transported to the project site to include locations, stockpile heights, slopes, and limits.
- (4) The method and route for transporting the excavated material from the Contractor-furnished borrow area to the project site.
- (5) The proposed methods for draining and keeping dry during excavation the borrow area excavated under this contract, including any protection dikes constructed to alleviate drainage problems.
- (6) A complete list of excavation and transportation equipment planned for use in its operations.
- (7) The Contractor's proposed sequence of excavating the borrow area showing starting and ending work locations.
- (8) A list of the permits required and issuing office.

3.6.5.9 Environmental Protection Plan

A proposal for implementing Section 01352 of this contract insofar as that section applies to borrow areas.

3.6.6 Government Performed Environmental Assessment

The Government is required to perform an environmental assessment on all new proposed borrow areas without regard to the source. An environmental assessment requires a minimum of ninety (90) days for review, processing, and approval time by the Government. Before the Government will commence the environmental assessment, the contractor must submit all of the above items as a single, complete package. The Contracting Officer reserves the right to disapprove the use of Contractor-furnished borrow areas located in woodlands or wetlands.

3.7 HAULING

All excavated material to be hauled to the site from the borrow source, or to be removed from the site, including debris, shall be hauled in trucks with secured binders on tailgates to the place of destination. The route for trucks carrying material to and from the job site, and to and from the borrow area shall avoid residential streets, and shall be approved by the Contracting Officer. Trucks shall not spill or track mud on public roads. The Contractor shall take immediate action to clean up any material spilled on the roads without notification from the Contracting Officer. Failure by the Contractor to satisfactorily clean public roads used for the hauling operation shall result in the suspension of hauling operations until such roads are cleaned to the satisfaction of the Contracting Officer.

3.8 GRADE TOLERANCES

3.8.1 Excavation

All excavation shall be cut to the grades and cross sections shown on the drawings. For excavation in the borrow area(s), a tolerance of 5/10 of a foot above or below the prescribed grade and cross section shown will be permitted.

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SECTION 02922 - FERTILIZING, SEEDING AND MULCHING

PART 1 GENERAL

1.1 SCOPE

The work provided for herein consists of furnishing all plant, labor, equipment, and materials, and performing all operations necessary for finished dressing, fertilizing and seeding areas as specified herein and as indicated on the drawings. Fertilizing, seeding and mulching of the new embankment shall be performed upon completion of embankment construction in minimum lengths of 1,000-feet. The period of the year in which fertilizing, seeding and mulching operations are performed in a particular area will determine the seeding specification in Table I which shall be followed for that area. Only one of the seeding specifications listed in Table I will be required for each particular area.

1.2 MEASUREMENT

Measurement for fertilizing, seeding and mulching satisfactorily performed, will be made by the acre. Acreage will be determined from surface areas computed from the theoretical gross cross section of embankment fertilized and seeded. Measurement will be to the nearest foot and units computed to the nearest one-hundredth of an acre. No measurement will be made for placement of material required for any necessary repairs as described in paragraph 3.1.3.

1.3 PAYMENT

Payment for fertilizing, seeding and mulching measured as described in paragraph 1.2 and other incidental work, except disposal of debris, will be made at the contract unit price per acre for "Fertilizing, Seeding and Mulching". Prices and payments shall constitute full compensation for furnishing all plant, labor, materials and equipment and performing the work, including any necessary repairs, in accordance with these specifications.

1.4 SUBMITTALS

The Contractor shall submit the following items in accordance with the Section 01330, "SUBMITTAL PROCEDURES".

1.4.1 Fertilizer

Duplicate signed copies of invoices from suppliers shall be furnished. Invoices shall show quantities and percentage of nitrogen, phosphorus, and potash. Upon completion of the project, a final check of the total quantity of fertilizer used will be made against total area treated, and if minimum rates of application have not been

met, an additional quantity of material sufficient to make up the minimum application rate shall be distributed as directed.

1.4.2 Seed

The Contracting Officer shall be furnished duplicate signed copies of statements certifying that each container of seed delivered is labeled in accordance with the Federal Seed Act and is at least equal to the requirements specified in paragraph 2.1.3. This certification shall be obtained from the supplier and shall be furnished on or with all copies of seed invoices.

1.4.3 Mulch

Representative samples of the materials proposed for use shall be submitted for approval.

1.5 QUALITY CONTROL

1.5.1 General

The Contractor shall establish and maintain quality control for finished dressing, fertilizing, seeding and mulching operations and shall maintain records of his quality control for all construction operations including, but not limited to, the following:

(1) Preparation of Ground Surface

Location and quality of finished dressing, including necessary clearing, filling, or dressing out of washes, smoothness and uniformity of surfaces, and time of year.

(2) Fertilizing

Quality of materials. Areas fertilized, quantity applied, and method of application.

(3) Seeding

Quality and type of seed, area covered, rate of application, quantity of seed used, and method of distribution.

(4) Mulching

Quality of materials, area mulched, quantity applied, and method of application.

(5) Maintenance and Repair

Location and type of maintenance problems and remedial treatment performed.

(6) Watering

Quality of water, area watered, quantity applied, and method of application.

1.5.2 Reporting

The original and two copies of these records of inspections and tests, as well as the records of corrective action taken, shall be furnished the Government daily. Format of the report shall be as prescribed in Section 01451, "CONTRACTOR QUALITY CONTROL".

1.6 AREAS TO BE TREATED

Fertilizing, seeding and mulching shall be performed on all disturbed areas within the construction limits except the borrow area and on all newly constructed embankments as indicated on the drawings.

1.7 COMMENCEMENT, PROSECUTION, AND COMPLETION

1.7.1 General

Preparation of the ground surface, fertilizing, seeding and mulching operations shall be accomplished during the applicable growing season as specified in Table I.

1.7.2 Sequence of Work

The sequence of operations for work prescribed in this section, except mowing, shall be as follows:

- (1) Preparation of Ground Surface.
- (2) Fertilizing.
- (3) Seeding.
- (4) Watering.
- (5) Mulching.

Fertilizing and seeding operations shall commence upon completion of a length of 1,000 feet of embankment. At no time shall such fertilizing, seeding and mulching operations be more than 1,000 feet behind completed portions of embankment unless approved by the Contracting Officer.

1.8 RESERVED

1.9 SPECIAL EQUIPMENT

1.9.1 Mulch Spreader

The mulch spreader used for applying straw or hay mulch shall be equipped with a blower that is capable of discharging hay or straw mulch material through a discharge spout at speeds up to 220-feet per second. The discharge spout shall be capable of 360-degree horizontal rotation and have a minimum of 60-degree range of elevation and depression. The mulch spreader shall be equipped with an asphalt adhesive supply and application system, near the discharge end of the boom spout, that is capable of applying an asphalt adhesive in atomized form to the mulch material at a predetermined rate. The spreader shall be capable of blowing the adhesive-coated mulch over the surface of a graded or otherwise prepared slope at a uniform rate, forming a porous, stable, erosion-resisting cover at a distance of not less than 100-feet.

1.9.2 Wood Cellulose Fiber Mulch Spreader or Recycled Wood Pulp

Hydraulic equipment used for the application of slurry of prepared wood pulp shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend, and homogeneously mix a slurry containing up to 300 pounds of fiber for each 1,000 gallons of water. The slurry distribution lines shall be large enough to prevent stoppage. The discharge line shall be equipped with hydraulic spray nozzles that will provide even distribution of the slurry on the various slopes to be mulched. The slurry tank shall have a minimum capacity of 1,000 gallons and shall be mounted on a traveling unit, which may be either self-propelled or drawn by a separate unit, that will place the slurry tank and spray nozzles near the areas to be mulched so as to provide uniform distribution without waste. The Contracting Officer may authorize equipment with a smaller tank capacity provided that the equipment has the necessary agitation system and sufficient pump capacity to spray the slurry in a uniform seat over the surface of the area to be mulched.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Fertilizer

Fertilizer shall be uniform in composition and free flowing. The fertilizer shall meet the requirements for commercial fertilizer and shall contain, per acre, 60 pounds of available nitrogen, 60 pounds of available phosphorous, and 60 pounds of available potash. The fertilizer shall be delivered to the site in bags or other convenient containers or delivered in bulk. If delivered in bags or containers, the fertilizer shall be fully labeled in accordance with the applicable state fertilizer laws and shall bear the name, tradename or trademark, and warranty of the producer. Should the commercial fertilizer be furnished in bulk, the Contractor shall furnish certified weight

tickets and a certified quantitative analysis report, in triplicate, from a recognized testing laboratory certifying the nutrient ratio of the materials.

2.1.2 Soil for Repairs

For fill of areas to be repaired, soil shall be of a quality at least equal to that which exists in areas adjacent to the area to be repaired. Soil used shall be relatively free from roots, stones, and other materials that hinder grading, planting, and maintenance operations and shall be free from objectionable weed seeds and toxic substances.

2.1.3 Seed

Seed labeled in accordance with U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act shall be furnished by the Contractor. Seed shall be furnished in sealed, standard containers unless written exception is granted. Seed that is wet or moldy or that has been otherwise damaged in transit or storage will not be acceptable. The specifications for seeds shall conform to, and be seeded in accordance with the following table:

Table I

| Seeding Period and Grasses to be Used | Minimum Purity% | Minimum Germination% | Minimum Rate Lbs/Acre |
|---|-----------------|----------------------|-----------------------|
| 2 March – 14 September Hulled Common Bermuda Grass | 95 | 87 | 50 |
| 15 September - 1 March Unhulled Common Bermuda Grass | 95 | 87 | 50 |
| Ryegrass | 97 | 82 | 35 |

2.1.4 Water

Water shall be free from oil, acid, alkali, salt, and other substances harmful to growth of grass.

2.1.5 Mulch

If the mulch option is used threshed straw from a cereal grain such as oats, wheat, barley, rye, or rice; grass hay; pine needles; or wood fiber shall be furnished and applied by the Contractor. Materials that contain noxious grass or weed seeds that might be detrimental to the seeding operation or to adjacent farmland will not be acceptable.

2.1.5.1 Wood Cellulose Fiber or Recycled Wood Pulp Mulch

If the wood cellulose fiber option is used, the wood cellulose fiber mulch with tackifier for use with hydraulic application equipment shall consist of wood cellulose fiber. If the recycled wood pulp mulch option is used, the recycled wood pulp mulch for use with hydraulic application equipment shall consist of pulped ecology by-product made from printer's scrap paper which contains wood cellulose and kaolin clay to provide non-toxic organic tackifier. The mulch shall be processed to contain no growth or germination inhibiting factors, and dyed an appropriate color to facilitate visual metering of application of the materials. The mulch material shall be supplied in packages having a net weight not in excess of 100 pounds. The wood cellulose mulch fiber shall contain not in excess of 10 percent moisture, air dry weight basis. The wood cellulose mulch fiber shall be manufactured so that after addition and agitation in slurry tanks, with water, and any other additives, the fibers in the material will become uniformly suspended to form a homogeneous slurry, and that when hydraulically sprayed on the ground, the material will form a blotter like ground cover which, after application, will allow the absorption of moisture and allow rainfall or mechanical watering to percolate to the underlying soil. The Contractor shall be prepared to submit, on request, certification from the supplier that laboratory and field testing of the product has been accomplished, and that the product meets the foregoing requirements.

PART 3 EXECUTION

3.1 PREPARATION OF GROUND SURFACE

3.1.1 General

Equipment, in good condition, shall be provided for the proper preparation of the ground and for handling and placing all materials. Equipment shall be approved by the Contracting Officer before work is started.

3.1.2 Clearing

Prior to grading and tilling, vegetation and debris that may interfere with fertilizing, seeding and mulching operations shall be mowed, grubbed, and raked; and shall be disposed of satisfactorily, as specified in 02231-3.4.

3.1.3 Grading

Previously established grades and slopes shall be maintained in a true and even condition on the areas to be fertilized, seeded and mulched. Necessary repairs to previously graded areas shall be repaired with material as described in paragraph 2.1.2. The material shall be placed and compacted in accordance with 02332-3.2. Where grades have not been established, the areas shall be graded as shown, or as directed by the Contracting Officer, and all surfaces shall be left in a true and even condition.

3.1.4 Tillage

After the areas required to be fertilized, seeded and mulched have been brought to the specified grades, the soil shall be tilled to a depth of at least 2-inches by plowing, disking, harrowing, or other approved method until the condition of the soil is acceptable. The work shall be performed only during periods when, in the opinion of the Contracting Officer, beneficial results are likely to be obtained. When drought, excessive moisture, or other unsatisfactory conditions prevail, the work shall be stopped when directed. Undulations or irregularities in the surface to be fertilized, seeded and mulched shall be dressed before the next specified operation.

3.2 APPLICATION OF FERTILIZER

Fertilizer, as specified in paragraph 2.1.1, shall be distributed uniformly over areas to be seeded and shall be incorporated into the soil to a depth of at least 2-inches by disking, harrowing, or other acceptable methods. Incorporation of fertilizer may be part of the operation specified in paragraph 3.1.4.

3.3 SEEDING

3.3.1 General

The applicable seed shall be sown at the rate and time as indicated in Table I. A satisfactory method of sowing shall be employed, using approved mechanical power-drawn seeders, mechanical hand-seeders, broadcast-seeders, or other approved methods. When delays in operations extend the work beyond the most favorable planting season for the species designated, or when conditions are such by reason of drought, high winds, excessive moisture, or other factors that satisfactory results are not likely to be obtained, work shall be halted as directed by the Contracting Officer and resumed only when conditions are favorable or when approved alternative or corrective measures and procedures have been effected. If inspection during or after seeding operations indicates that areas have been left unplanted or other areas have been skipped, additional seed shall be applied.

3.3.2 Broadcast Seeding

If the broadcast method of seeding is used, seed shall be broadcast with approved sowing equipment and distributed uniformly over designated areas. Seed shall be covered to an average depth of 1/4-inch by brush harrow, spike-tooth harrow, chain harrow, cultipacker, or other approved devices. Seed shall not be broadcast during windy weather.

3.3.3 Hydraulic Seeding

If the hydraulic method of seeding is used, seeds shall be combined with fertilizer and mulch and applied uniformly with equipment meeting the requirements of paragraph 1.9.2.

3.3.4 Damage To Seeding

The Contractor shall be fully responsible for any damage to the seeded areas caused by his operations. Areas that become damaged as a result of poor workmanship or failure to meet the requirements of the specifications may be ordered repaired and reseeded to specification requirements, without additional cost to the Government.

3.4 APPLYING AND ANCHORING MULCH

3.4.1 Mulching

During the period of 15 Dec through 1 Feb, the Contractor may elect to seed, providing he mulches at his own expense immediately thereafter.

3.4.2 Applying Mulch

The mulch shall be a vegetative asphalt mulch consisting of grain straw (oats, wheat, or rice) or grass hay and asphalt. Mulch, as specified in paragraph 2.1.5, shall be applied uniformly on the soil surface at the rate of 2 tons (approximately 80 bales) per acre. Mulching shall be done immediately after seeding. Mulch shall be tacked by spraying with emulsified asphalt conforming to paragraph 2.1.5.1 at the rate of 150 gallons per ton of mulch. The mulch shall be applied by means of approved equipment suitable for such work.

3.4.3 Wood Cellulose Fiber Mulch or Recycled Wood Pulp

Wood cellulose fiber or recycled wood pulp mulch, as specified in paragraph 2.1.5, shall be applied uniformly on the soil at the rate of 1800 pounds per acre during the seeding operation with equipment as specified in paragraph 1.9.2.

3.5 MOWING

The seeded areas shall be mowed with approved mowing equipment to a height of 3 to 4-inches whenever the height of vegetation becomes 6 to 8-inches. When the amount of cut grass is heavy, it shall be removed to prevent destruction of the underlying turf. The Contractor shall perform periodic and final grass mowing within the limits of work for the duration of this contract.