

US Army Corps
of Engineers ®
St. Louis District

2013 FLOOD RECOVERY LEVEE REPAIRS

WORK AREA 5A
SCOTT COUNTY, BIG SWAN, HILLVIEW
AND HARTWELL L&DD
ILLINOIS RIVER
SCOTT AND GREENE COUNTIES, ILLINOIS

BCOE REVIEW/CONSTRUCTION SOLICITATION AND SPECIFICATIONS

SOLICITATION NUMBER: W912P9-14-X-0XXX

JANUARY 2014

BIDDING REQUIREMENTS, CONTRACT FORMS AND CONTRACT CONDITIONS

SF 1442 SOLICITATION, OFFER, AND AWARD
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00 08 00 SPECIAL CLAUSES

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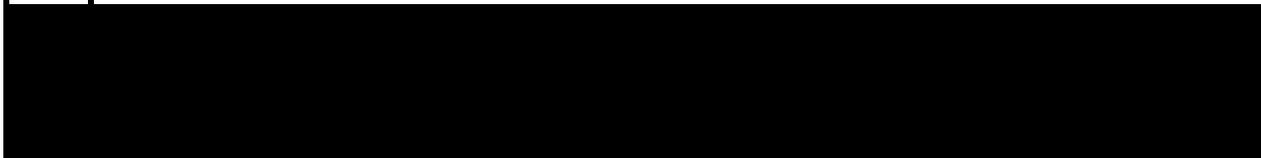
32 29 35 ESTABLISHMENT OF TURF

2013 Flood Recovery Levee Repairs - Work Area 5a

ITEM	SUPPLIES/SERVICES	EST QTY	UOM	UNIT PRICE
0001	GROUP 1 EQUIPMENT MOBILIZATION & DEMOBILIZATION (TBD)	TBD	LS	TBD
0002	LGP TRACK-TYPE BULLDOZER (Min 180 hp)		HR	
0003	TRACK-TYPE LOADER (Min 160 hp)		HR	
0004	TRACK-TYPE HYDRAULIC BACKHOE (Min 155 hp) EXCAVATOR		HR	
0005	MOTOR GRADER (Min 145 hp) WITH SCARIFIER		HR	
0006	WHEEL TRACTOR & DISC PLOW (Min 200 hp) WITH HARROW		HR	
0007	RUBBER-TIRED TRACTED TRACTOR (Min 400 hp) WITH TWO SCRAPER PANS		HR	
0008	SELF-PROPELLED SHEEPSFOOT ROLLER		HR	
0009	PULL TYPE SHEEPSFOOT ROLLER		HR	
0010	OPERATOR - GROUP 1 - STRAIGHT TIME		HR	
0011	OPERATOR - GROUP 1 - OVERTIME		HR	
0012	GROUP 2 EQUIPMENT MOBILIZATION & DEMOBILIZATION (TBD)	TBD	LS	TBD
0013	HIGHWAY TRUCK WITH DUMP		HR	
0014	OFF HIGHWAY TRUCK W/DUMP W/O TAILGATE		HR	
0015	OPERATOR - GROUP 2 - STRAIGHT TIME		HR	
0016	OPERATOR - GROUP 2 - OVERTIME		HR	
0017	GROUP 3 EQUIPMENT MOBILIZATION & DEMOBILIZATION (TBD)	TBD	LS	TBD
0018	WATER AND TRASH PUMP, (1,450GPM) (DAILY)		DY	
0019	WATER AND TRASH PUMP, (1,450GPM), SUCTION & DISCHARGE PIPE, SETUP AND TEARDOWN		LF	
0020	VIBRATORY PLATE TAMPER		HR	
0021	OPERATOR - GROUP 3 - STRAIGHT TIME		HR	
0022	OPERATOR - GROUP 3 - OVERTIME		HR	
0023	AGGREGATE FOR BASE 3/4-INCH MINUS STONE COMMERCIAL CA-6		TN	
0024	TEMPORARY PROJECT SAFETY FENCING		LF	
0025	SILT FILTER FENCE		LF	
0026	STRAW BALES		EA	
0027	GEOTEXTILE		SY	
0028	GEOGRID		SY	
0029	ESTABLISHMENT OF TURF		LS	
0030	TESTING - ASTM 698D		SY	
0031	TESTING - ASTM 1556		LB	
0032	TESTING - ASTM 2937		LB	
0033	TESTING - ASTM 4318		LB	

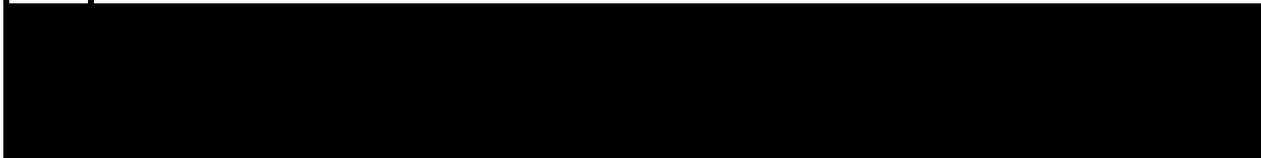
2013 Flood Recovery Levee Repairs - Work Area 5a - Scott County

ITEM	SUPPLIES/SERVICES	EST QTY	UOM	UNIT PRICE
0001	GROUP 1 EQUIPMENT MOBILIZATION & DEMOBILIZATION (TBD)	TBD	LS	TBD
0002	LGP TRACK-TYPE BULLDOZER (Min 180 hp)	230	HR	
0003	TRACK-TYPE LOADER (Min 160 hp)	230	HR	
0004	TRACK-TYPE HYDRAULIC BACKHOE (Min 155 hp) EXCAVATOR	230	HR	
0005	MOTOR GRADER (Min 145 hp) WITH SCARIFIER	50	HR	
0006	WHEEL TRACTOR & DISC PLOW (Min 200 hp) WITH HARROW	50	HR	
0007	OPERATOR - GROUP 1 – STRAIGHT TIME	632	HR	
0008	OPERATOR - GROUP 1 - OVERTIME	158	HR	
0009	GROUP 2 EQUIPMENT MOBILIZATION & DEMOBILIZATION (TBD)	TBD	LS	TBD
0010	HIGHWAY TRUCK WITH DUMP	690	HR	
0011	OPERATOR - GROUP 2 – STRAIGHT TIME	552	HR	
0012	OPERATOR - GROUP 2 - OVERTIME	138	HR	
0013	TEMPORARY PROJECT SAFETY FENCING	200	LF	
0014	SILT FILTER FENCE	200	LF	
0015	STRAW BALES	50	EA	
0016	ESTABLISHMENT OF TURF	1	LS	



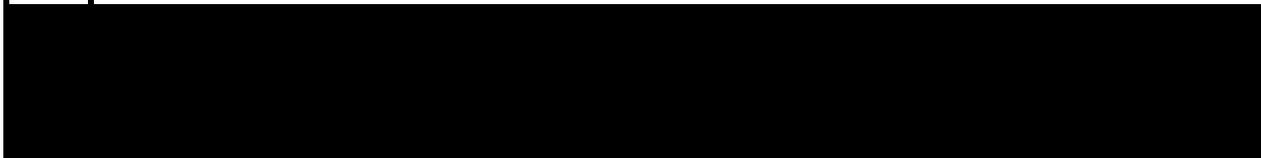
2013 Flood Recovery Levee Repairs - Work Area 5a - Big Swan

ITEM	SUPPLIES/SERVICES	EST QTY	UOM	UNIT PRICE
0001	GROUP 1 EQUIPMENT MOBILIZATION & DEMOBILIZATION (TBD)	TBD	LS	TBD
0002	LGP TRACK-TYPE BULLDOZER (Min 180 hp)	50	HR	
0003	TRACK-TYPE HYDRAULIC BACKHOE (Min 155 hp) EXCAVATOR	20	HR	
0004	MOTOR GRADER (Min 145 hp) WITH SCARIFIER	10	HR	
0005	WHEEL TRACTOR & DISC PLOW (Min 200 hp) WITH HARROW	10	HR	
0006	OPERATOR - GROUP 1 - STRAIGHT TIME	72	HR	
0007	OPERATOR - GROUP 1 - OVERTIME	18	HR	
0008	GROUP 2 EQUIPMENT MOBILIZATION & DEMOBILIZATION (TBD)	TBD	LS	TBD
0009	HIGHWAY TRUCK WITH DUMP	20	HR	
0010	OPERATOR - GROUP 2 - STRAIGHT TIME	18	HR	
0011	OPERATOR - GROUP 2 - OVERTIME	2	HR	
0012	TEMPORARY PROJECT SAFETY FENCING	200	LF	
0013	SILT FILTER FENCE	200	LF	
0014	STRAW BALES	50	EA	
0015	ESTABLISHMENT OF TURF	1	LS	



2013 Flood Recovery Levee Repairs - Work Area 5a - Hillview

ITEM	SUPPLIES/SERVICES	EST QTY	UOM	UNIT PRICE
0001	GROUP 1 EQUIPMENT MOBILIZATION & DEMOBILIZATION (TBD)	TBD	LS	TBD
0002	LGP TRACK-TYPE BULLDOZER (Min 180 hp)	130	HR	
0003	TRACK-TYPE LOADER (Min 160 hp)	130	HR	
0004	TRACK-TYPE HYDRAULIC BACKHOE (Min 155 hp) EXCAVATOR	30	HR	
0005	MOTOR GRADER (Min 145 hp) WITH SCARIFIER	20	HR	
0006	WHEEL TRACTOR & DISC PLOW (Min 200 hp) WITH HARROW	20	HR	
0007	OPERATOR - GROUP 1 – STRAIGHT TIME	264	HR	
0008	OPERATOR - GROUP 1 - OVERTIME	66	HR	
0009	GROUP 2 EQUIPMENT MOBILIZATION & DEMOBILIZATION (TBD)	TBD	LS	TBD
0010	HIGHWAY TRUCK WITH DUMP	60	HR	
0011	OPERATOR - GROUP 2 – STRAIGHT TIME	48	HR	
0012	OPERATOR - GROUP 2 - OVERTIME	12	HR	
0013	TEMPORARY PROJECT SAFETY FENCING	200	LF	
0014	SILT FILTER FENCE	200	LF	
0015	STRAW BALES	50	EA	
0016	ESTABLISHMENT OF TURF	1	LS	



2013 Flood Recovery Levee Repairs - Work Area 5a - Hartwell

ITEM	SUPPLIES/SERVICES	EST QTY	UOM	UNIT PRICE
0001	GROUP 1 EQUIPMENT MOBILIZATION & DEMOBILIZATION (TBD)	TBD	LS	TBD
0002	LGP TRACK-TYPE BULLDOZER (Min 180 hp)	150	HR	
0003	TRACK-TYPE LOADER (Min 160 hp)	150	HR	
0005	MOTOR GRADER (Min 145 hp) WITH SCARIFIER	50	HR	
0006	WHEEL TRACTOR & DISC PLOW (Min 200 hp) WITH HARROW	50	HR	
0009	GROUP 2 EQUIPMENT MOBILIZATION & DEMOBILIZATION (TBD)	TBD	LS	TBD
0010	HIGHWAY TRUCK WITH DUMP	360	HR	
0011	OPERATOR - GROUP 2 - STRAIGHT TIME	288	HR	
0012	OPERATOR - GROUP 2 - OVERTIME	72	HR	
0013	VIBRATORY PLATE TAMPER	20	HR	
0014	OPERATOR - GROUP 3 - STRAIGHT TIME	16	HR	
0015	OPERATOR - GROUP 3 - OVERTIME	4	HR	
0016	TEMPORARY PROJECT SAFETY FENCING	200	LF	
0017	SILT FILTER FENCE	200	LF	
0018	STRAW BALES	50	EA	
0019	ESTABLISHMENT OF TURF	1	LS	
0020	TESTING - ASTM 698D	10	EA	
0021	TESTING - ASTM 1556	10	EA	
0022	TESTING - ASTM 2937	10	EA	
0023	TESTING - ASTM 4318	5	EA	



SECTION 00 08 00
SPECIAL CONTRACT REQUIREMENTS

PART 1 GENERAL

1.1 SURVEYS

The work indicated on Drawing No. G-002, is determined from the latest available survey data.

1.2 PAY REQUESTS

Pay requests authorized in the Contract Clause entitled "Payments Under Fixed-Price Construction Contracts", will be paid pursuant to the clause entitled "Prompt Payment for Construction Contracts". Pay requests shall be submitted on ENG Form 93 and 93a, "Payment Estimate-Contract Performance" and "Continuation", respectively. All information and substantiation required by the identified contract clauses shall be submitted with the ENG Form 93, and the required certification shall be included on the last page of the ENG Form 93a, signed by an authorized official of the Contractor and dated when signed. The designated billing office is the Office of the Area Engineer.

1.3 PHYSICAL DATA (APR 1984) FAR 52.236-4

Data and information furnished or referred to below is furnished for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

- a. Physical Conditions. The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys.
- b. Weather Conditions. Information with respect to temperatures and precipitation may be obtained from the National Weather Service.
- c. Transportation Facilities. Railroads and highways serve the general area of the work.

1.4 RIGHT-OF-WAY

Right-of-way for construction purposes will be furnished by the Government without cost to the Contractor. Where right-of-way for access to a work site is not available over existing public roads, access through private lands as shown on the contract drawings will be furnished by the Government without cost to the Contractor. The Contractor will be required at its own expense to do all work necessary to make such right-of-way suitable for traveling to and from the work site without interrupting the existing drainage. Upon completion of the contract work, any such access roadway and right-of-way furnished by the Government shall be left in a condition satisfactory to the Contracting Officer.

1.5 PUBLIC UTILITIES AND PRIVATE IMPROVEMENTS

a. Unless otherwise specified, shown on the drawings, or stated in writing by the Contracting Officer, the Contractor shall not move or disturb any public utilities or private improvements. Such removals, alterations, and/or relocations, where necessary, will be made by others. Any locations shown on the drawings for underground utilities are approximate only. The exact locations of such utilities shall be determined by the Contractor in the field prior to commencing construction operations in their vicinity.

b. The attention of the Contractor is directed to the possibility that public utilities or private improvements may be encountered within the construction limits, some of which may be buried, and the existence of which is presently not known. Should any such utilities or improvements be encountered, the Contractor shall immediately notify the Contracting Officer so that a determination may be made as to whether they shall be removed, relocated, or altered. After such determination is made, the Contractor shall, if so directed by the Contracting Officer, remove, relocate, or alter them as required and an equitable adjustment will be made. In the event the Contracting Officer arranges for such removals, alterations, or relocations to be performed by others, the Contractor shall cooperate with such others during the latter's removal, alteration, or relocation operations.

1.6 DAMAGE TO WORK.

The responsibility for damage to any part of the permanent work shall be as set forth in the Contract Clause entitled "Permits and Responsibilities." However, if in the judgment of the Contracting Officer any part of the permanent work performed by the Contractor is damaged by flood or earthquake, which damage is not due to the failure of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor shall make the repairs as ordered by the Contracting Officer and full compensation for such repairs will be made at the applicable contract unit or lump sum prices as fixed and established in the contract. If in the opinion of the Contracting Officer there are no contract unit or lump sum prices applicable to any part of such work, an equitable adjustment pursuant to the Contract Clause entitled, "Changes," of the contract will be made as full compensation for the repairs of that part of the permanent work for which there are no applicable contract unit or lump sum prices. Except as herein provided, damage to all work (including temporary construction), utilities, materials, equipment, and plant shall be repaired to the satisfaction of the Contracting Officer at the Contractor's expense, regardless of the cause of such damage.

1.7 LAYOUT OF WORK (APR 1984). FAR 52.236-17.

The Contractor shall lay out its work from Government-established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all

stakes and other marks established or indicated by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.

1.8 QUANTITY SURVEYS (APR 1984). FAR 52.236-16

a. Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

b. The Contractor shall conduct the original and final surveys and surveys for any periods for which progress payments are requested. All these surveys shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance. The Government shall make such computations as are necessary to determine the quantities of work performed or finally in place. The Contractor shall make the computations based on the surveys for any periods for which progress payments are requested.

c. Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer.

1.9 PARTIAL PAYMENT

At the discretion of the Contracting Officer, partial payment will be made for equipment delivered and stored on site or off site providing such storage is in accordance with the provisions of these specifications and the Contractor furnishes satisfactory evidence that title to such equipment has been acquired and that it will be utilized on the work covered by these specifications. Partial payment is defined as the invoice amount plus shipping costs. If the equipment is stored off site, the Government shall have the right to inspect the equipment.

1.10 CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in 3 copies. Each certificate shall include the signature and title of an official authorized to certify in behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from responsibility for furnishing satisfactory material if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

1.11 PURCHASE ORDERS

Two copies of all purchase orders for other than stock materials showing the firm names and addresses and list of material shall be furnished to the Contracting Officer or an authorized representative as soon as issued.

1.12 SAFETY AND HEALTH REQUIREMENTS MANUAL EM 385-1-1

The Safety and Health Requirements Manual EM 385-1-1 forms a part of these specifications. EM 385-1-1 and its changes are available at <http://publications.usace.army.mil/publications/eng-manuals/>. The Contractor shall be responsible for complying with the current edition and all changes posted on the web as of the effective date of this solicitation.

1.13 ACCIDENT INVESTIGATIONS AND REPORTING

Refer to EM 385-1-1, Paragraph 01.D. Accidents, involving contractor and/or subcontractor employees performing any work or related work on a USACE project, shall be investigated and reported immediately to the Contracting Officer or authorized Contracting Officer's representative. This reporting requirement applies to on-site or off-site accidents. Upon receipt of the initial accident report notification, the Contracting Officer shall issue additional guidance concerning continuing project operations which may include a "cease work" directive. If a cease work directive is issued, the Contractor will not be allowed to resume work related to the accident until all conditions of the "cease work" directive are met. After the initial notification, the Contractor shall ensure a formal investigation is conducted and reports are completed by the immediate supervisor of the employee(s) involved and reported to the Contracting Officer or an authorized representative within one working day after the accident occurs. The accident Investigation report shall be made on ENG Form 3394.

1.14 ACCIDENT PREVENTION PROGRAM

Refer to Contract Clause FAR 52.236-13 entitled, "Accident Prevention". Within 5 days after receipt of Notice of Award of the contract, and at least 7 days prior to the prework conference, the original and one copy of the Accident Prevention Program shall be submitted to the Contracting Officer for review. A checklist has been included at the end of this section to aid the Contractor in preparing the Accident Prevention Plan. The program shall be prepared in the following format:

- a. An executed MVS Form 385-43, Administrative Plan.
- b. An executed MVS Form 385-43/2, Hazard Analysis.
- c. A copy of company policy statement of accident prevention and any other guidance statements normally provided new employees. Each company employee shall be required to sign the company policy statement of accident prevention to verify that all employees have been informed of the safety program, and such signed statements shall be maintained at the project site.

The Contractor shall not commence physical work at the site until the program has been reviewed and found acceptable by the Contracting Officer, or an authorized representative. At the Contracting Officer's discretion,

the Contractor may submit its Activity Hazard Analysis only for the first phase of construction provided that it is accompanied by an outline of the remaining phases of construction. All remaining phases shall be submitted and accepted prior to the beginning of work in each phase. Also refer to Section 1 of EM 385-1-1.

1.15 DAILY INSPECTIONS

The Contractor shall perform daily safety inspections and record them on the forms approved by the Contracting Officer. Reports of daily inspections shall be maintained at the job site. The reports shall be records of the daily inspections and resulting actions. Each report shall include, as a minimum, the following:

- a. Phase(s) of construction underway during the inspection.
- b. Locations of areas inspections were made.
- c. Results of inspection, including nature of deficiencies observed and corrective actions taken, or to be taken, date, and signature of the person responsible for its contents.

1.16 ENVIRONMENTAL LITIGATION

- a. If the performance of all or any part of the work is ordered by a court of competent jurisdiction to be suspended, delayed, or interrupted as a result of environmental litigation, as defined below, the Contracting Officer, at the request of the Contractor, shall determine whether the order is due in any part to the acts or omissions of the Contractor or a Subcontractor at any tier not required by the terms of this contract. If it is determined that the order is not due in any part to acts or omissions of the Contractor or a Subcontractor at any tier other than as required by the terms of this contract, such suspension, delay, or interruption shall be considered as if ordered by the Contracting Officer in the administration of this contract under the terms of the Contract Clause entitled "Suspension of Work".
- b. The term "environmental litigation", as used herein, means a lawsuit alleging that the work will have an adverse effect on the environment or that the Government has not duly considered, either substantively or procedurally, the effect of the work on the environment.

1.17 SEVERE WEATHER LIMITATIONS

When construction operations are prevented due to severe weather conditions, the Contracting Officer will determine the extent of the delay to the work as a whole, and the time fixed for completion of the contract will be extended for the period of such delay.

1.18 SUBCONTRACTS

In accordance with the Contract Clause entitled "Subcontracts", the Contractor shall, within seven days after the award of any subcontract by the Contractor or a Subcontractor, deliver to the Contracting Officer two

copies of a completed Standard Form 1413. Both copies must contain the original signatures of both parties.

1.19 REQUIRED INSURANCE - WORK ON A NON-GOVERNMENT INSTALLATION.

a. The Contractor shall, at its own expense, provide and maintain during the entire performance period of this contract at least the kinds and minimum amounts of insurance required in the following schedule:

(1) Workmen's Compensation. Amounts required by applicable jurisdictional statutes.

(2) Employer's Liability Insurance. \$100,000

(3) Comprehensive General Liability Insurance.

Bodily Injury - \$500,000 per occurrence

(4) Comprehensive Automobile Insurance.

Bodily Injury - \$200,000 each person
\$500,000 each accident

Property Damage - \$ 20,000 each accident

b. Within 5 days after receipt of Notice of Award and before commencing work under this contract, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective

(1) for such period as the laws of the State in which this contract is to be performed prescribe, or

(2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

c. The Contractor shall insert the substance of this clause, including this paragraph c, in subcontracts under this contract and shall require subcontractors to provide and maintain the insurance required in paragraph a above. The Contractor shall maintain a copy of all subcontractor's proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

d. Statements of insurance should be submitted to the following address:

Department of the Army
St. Louis District, Corps of Engineers
Central Area Office; CEMVS-EC-CA
301 Riverlands Way
West Alton, Missouri 63386

1.20 PROTECTION OF MATERIAL AND WORK

The Contractor shall at all times protect and preserve all materials, supplies, and equipment of every description (including property which may be Government-furnished or owned) and all work performed. All reasonable requests of the Contracting Officer to enclose or specially protect such property shall be complied with. If, as determined by the Contracting Officer, material, equipment, supplies, and work performed are not adequately protected by the Contractor, such property may be protected by the Government and the cost thereof may be charged to the Contractor or deducted from any payments due to the Contractor.

1.21 CONTAMINATION OF WATER

In addition to the requirements set forth in SECTION 01 11 30, paragraph Protection of Water Resources, the Contractor shall take positive protective measures to prevent spillage of potential pollutant materials such as fuel, emulsion materials, chemicals etc., from storage containers or equipment, into lakes or tributary waters. Such positive protective measures may include, but are not limited to, the following:

- (1) A berm enclosure of sufficient capacity to contain such materials.
- (2) Security measures to prevent acts of vandalism which could result in spillage of such materials (fences, guards, etc.).
- (3) Storage of such materials in an area where the terrain would preclude leakage into lake or tributary waters.
- (4) Utilization of secure Government storage areas if the Contracting Officer indicates such space is available. No storage past immediate needs (2 days) without the consent of the Contracting Officer.

The Contractor shall submit its proposals for implementing the above provisions in accordance with SECTION 01 11 30, paragraph Environmental Protection Plan.

1.22 COMMERCIAL WARRANTY

The Contractor agrees that the standard commercial equipment furnished under this contract shall be covered by the most favorable commercial warranties the manufacturer gives to any customer for such equipment, and that the rights and remedies provided herein are in addition to and do not limit any rights afforded to the Government by any other clause of this contract. The Contractor shall furnish two copies of the warranties to the Contracting Officer.

1.23 ORDER AND COORDINATION OF WORK

These specifications have been written to encompass various repair methods. Some repairs mentioned in these specifications may not be included in this contract or task order and should be disregarded by the Contractor. The

Contractor shall base bids on the bidding schedule and the specifications pertaining to the bid items listed.

a. Scope of Work

Scott County

Contract involves repairing rutts, wavewash erosion, and re-establishing turf. Wavewash and rutting repair involves prepping the surface and compacting impervious fill to re-establish the original cross section of the levee.

Big Swan

Contract involves repairing wavewash erosion and re-establishing turf. Wavewash repair involves prepping the surface and compacting impervious fill to re-establish the original cross section of the levee.

Hillview

Contract involves repairing wavewash erosion and re-establishing turf. Wavewash repair involves prepping the surface and compacting impervious fill to re-establish the original cross section of the levee.

Hartwell

Contract involves repairing wavewash erosion, scour around discharge pipes, and re-establishing turf. Wavewash repair involves prepping the surface and compacting impervious fill to re-establish the original cross section of the levee. Scour around the discharge pipes requires minor excavation and concrete placement.

b. The Contractor shall coordinate all work with the Contracting Officer and the following point of contacts for each levee district. Levee Districts shall be given at minimum 48 hours notice before construction activities begin.

Scott County Drainage and Levee District

Commissioner
Mr. Randy Dolan
217/248-9338

Big Swan Drainage and Levee District

Chairman
Mr. Chuck Brown
217/742-9214

Commissioner
Larry Harbison
217/473-8591

Hillview Drainage and Levee District

Chairman
Mr. Jim Wilson
217/473-3609

Commissioner
Mr. Jeff York

217/371-2980

Hartwell Drainage and Levee District

Chairman

Mr. James Powell

217/945-6321 Office Number

217/248-1854 Cell Phone Number

b. The Contractor should be aware that rapid river rises are possible from rain events, and high water may cause work delays and/or damage existing conditions. The Contractor is responsible for becoming familiar with expected flow rates and river stages, and should monitor river forecasts and weather forecasts. In the event of a significant rise in river stages, the Contractor should do all he can to protect completed works and prevent damage.

c. Before beginning any construction activities, the Contractor shall videotape the existing condition of all roads to be used in the hauling operation. The Contracting Officer's Representative will be present during all videotaping. Three copies of the tape shall be provided to the participating representatives.

d. All lands, including but not limited to haul roads, and work areas that are damaged due to construction operations shall be returned to original conditions. The Contractor shall document existing conditions for post construction comparison. Any damaged concrete or asphalt pavement shall be repaired to as new conditions. All non-vegetative debris shall be removed from the project area. Repair of areas damaged due to construction operations, removal of excess material and debris and returning the land to its preconstruction condition are considered incidental to the contract. Necessary seeding and mulching shall also be considered incidental with this item.

e. It is the contractor's responsibility to verify all existing utility locations prior to construction. Contractor is responsible for contacting Illinois one call prior to ordering materials and beginning construction. The Contractor shall notify all utilities two working days in advance prior to any and all excavation. The Contractor shall also coordinate with utilities to support their relocations work.

1.24 AS-BUILT DRAWINGS

a. "As-Built" Contract Drawings. The Contractor shall maintain a separate set of full-size contract drawings, marked up in red, to indicate as-built conditions. Each as-built contract drawing shall include the Contract Number (W912P9-XX-C-XXXX) associated with the contract. These drawings shall be maintained in a current condition at all times until completion of the work and shall be available for review by Government personnel at all times. All variations from the contract drawings, for whatever reason, including those occasioned by modifications, optional materials, and the required coordination between trades, shall be indicated. These variations shall be shown in the same general detail utilized in the contract drawings. One set of marked-up hard copy drawings and one electronic copy of the marked-up drawings in pdf format shall be furnished to the Contracting Officer prior to acceptance of the work. The Government will withhold two

percent of the total bid price of the items for which as-built contract drawings have not been submitted.

b. "As-Built" Shop Drawings. Upon completion of items of work, the Contractor shall revise the shop drawings to show "as-built" conditions. The notation "Revised to show 'as-built' conditions" shall be placed in red in the lower right corner of each drawing along with the initials of a responsible company representative. Each as-built shop drawing or catalog cut shall be identified by the Contract Number (W912P9-XX-C-XXXX) associated with the contract, and corresponding transmittal number from ENG Form 4025. "As-built" shop drawings of each Contractor-prepared construction drawing should be prepared as soon as possible after the construction detailed on a given drawing has been completed. After the "as-built" shop drawings have been prepared as described above and within 15 days after the contract completion date, the Contractor shall submit four (4) complete sets of as-built shop drawings, including catalog cuts, as well as a scanned copy of the marked-up "as-built" shop drawings in pdf format to the Contracting Officer. The Government will withhold two percent of the total bid price of the item for which as-built shop drawings have not been submitted.

1.25 NOT USED

1.26 PARTNERING

In order to most effectively accomplish this contract, the Government is willing to form a cohesive partnership with the Contractor. This partnership would strive to draw on the strengths of each organization in an effort to achieve a quality project done right the first time, within budget, and on schedule. This partnership would be bilateral in make-up and partnership will be totally voluntary. Any cost associated with effectuating this partnership will be agreed to by all parties and will be shared equally with no change in contract price.

1.27 CONTRACTOR PERFORMANCE EVALUATIONS

In accordance with the provisions of Subpart 36.201(Evaluation of Contractor Performance) of the Federal Acquisition Regulation (FAR), construction contractor's performance shall be evaluated throughout the performance of the contract. The United States Army Corps of Engineers (USACE) follows the procedures outlined in Engineering Regulation 415-1-17 to fulfill this FAR requirement. For construction contracts awarded at or above \$100,000.00, the USACE will evaluate contractor's performance and prepare a performance report using the Construction Contractor Appraisal Support System (CCASS), which is now a web-based system. After an evaluation (interim or final) is written up by the USACE, the contractor will have the ability to access, review and comment on the evaluation for a period of 30 days. Accessing and using CCASS requires specific software, called PKI certification, which is installed on the user's computer. The certification is a Department of Defense requirement and was implemented to provide security in electronic transactions. The certification software could cost approximately \$110 - \$125 per certificate per year and is purchased from an External Certificate Authorities (ECA) vendor. Current information about the PKI certification process and for contacting vendors can be found on the web site: <http://www.cpars.navy.mil/>. If the Contractor wishes to participate in the

performance evaluation process, access to CCASS and PKI certification is the sole responsibility of the Contractor.

1.28 SECTION 8(A) DIRECT AWARD. DFARS 252.219-7009

(a) This contract is issued as a direct award between the contracting office and the 8(a) Contractor pursuant to the Memorandum of Understanding dated February 1, 2002, between the Small Business Administration (SBA) and the Department of Defense. Accordingly, the SBA is not a party to this contract. SBA does retain responsibility for 8(a) certification, 8(a) eligibility determinations and related issues, and for providing counseling and assistance to the 8(a) Contractor under the 8(a) Program. The cognizant SBA office is:

US Small Business Administration
Eastern Missouri District Office
20 North Broadway, Suite 1500
St. Louis, MO 63102

(b) The contracting office is responsible for administering the contract and for taking any action on behalf of the Government under the terms and conditions of the contract; provided that the contracting office shall give advance notice to the SBA before it issues a final notice terminating performance, either in whole or in part, under the contract. The contracting office also shall coordinate with the SBA prior to processing any novation agreement. The contracting office may assign contract administration functions to a contract administration office.

(c) The Contractor agrees that--

(1) It will notify the Contracting Officer, simultaneous with its notification to the SBA (as required by SBA's 8(a) regulations at 13 CFR 124.308), when the owner or owners upon whom 8(a) eligibility is based plan to relinquish ownership or control of the concern. Consistent with Section 407 of Pub. L. 100-656, transfer of ownership or control shall result in termination of the contract for convenience, unless the SBA waives the requirement for termination prior to the actual relinquishing of ownership and control; and

(2) It will not subcontract the performance of any of the requirements of this contract without the prior written approval of the SBA and the Contracting Officer.

1.29 CHANGES IN PERFORMANCE OF WORK AS NEGOTIATED

The Contractor shall beforehand notify the Contracting Officer, in writing, of any change or substitution in utilization of a subcontractor, supplier, etc., from that which was relied on by the Government during the cost and pricing negotiation. Such notification shall include:

- 1) the name of the new subcontractor, supplier, etc.;
- 2) the work to be performed or material supplied;

3) the reason for the substitution and;

4) whether the Contractor's costs will remain the same, increase, or decrease as a result of the change.

This notification shall also be applicable if the change results in work to be performed or material or equipment to be supplied by the Contractor.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Document --

ACCIDENT PREVENTION PROGRAM

ADMINISTRATIVE PLAN

EM385-1-1 (Sep 08)

Accepted copy must be at work site!

1. Contractor	2. Contract Name & No.	3. Date
4. Project Superintendent	5. Shift/day	5a. Hours/shift
5b. Maximum employees/shift		
5c. Describe major scope of work and location:		
6a. Training - List subjects to be discussed with employees in safety indoctrination.		
6b. TRAINING - List mandatory training and certifications that are applicable to this project (e.g., explosive actuated tools, confined space entry, crane operator, diver, vehicle operator, boat captains etc. (List the SSHO and attached a copy of OSHO training Certification)		
6c. List major equipment i.e. cranes, dozers, vessels etc.		
6d. List special equipment i.e. radioactive equipment (Moisture Density Gage) etc.		
7. Responsibility & Authority - Who is responsible for safety? <div style="display: flex; justify-content: space-between;"> Project: Corporate: Line of Authority? </div>		
8. Who will conduct safety inspection?	8a. How?	8b. When?
9a. Is safety & health policy attached?	9b. Is safety program attached?	9c. Day & hour weekly safety meeting to be held:
10. How will subcontractor & supplies be controlled?	11. What are their safety responsibilities?	

**ACCIDENT PREVENTION PROGRAM
ADMINISTRATIVE PLAN**

EM385-1-1 (Sep 08)

Accepted copy must be at work site!

Proposed layout of temporary buildings and facilities (including subcontractors) and traffic patterns including access roads, haul roads, R.R.s. utilities, etc.

The _____ will pursue a positive program of training, inspections
(Company)
and hazard control throughout the term of this contract. Mr./Ms. _____ has
responsibility and authority for enforcing them.

Contractor's Signature

Date

C.O.R. Signature and Date

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**ACCIDENT PREVENTION PROGRAM
 CONTRACTOR ACTIVITY HAZARD ANALYSIS
 USACE, St. Louis District**

1. Contract No.	2. Contract Name	3. Contract Administrator:
4. Date	5. Location	6. Estimated Start Date
7. PRINCIPAL STEPS	8. POTENTIAL HAZARDS	9. RECOMMENDED CONTROLS
10. EQUIPMENT TO BE USED	11. INSPECTION REQUIREMENTS	12. TRAINING REQUIREMENTS
Contractor/Superintendent or Safety Officer (Signature & Date)	Contractor/Project Manager Or Representative (Signature & Date)	

INSTRUCTIONS FOR COMPLETION OF CEMVS Form 385-43/2

Item Number	Instructions
1.	Self-explanatory
2.	Self-explanatory
3.	The Area, Resident, Project, or Field Office administering the contract.
4.	Date Hazard Analysis is prepared.
5.	Location of contract or where activity is to be performed.
6.	Estimated start date of the activity being analyzed.
7.	The principal steps of the operation must be identified in sequential order.
8.	Analyze each principal step for potential hazards and identify here.
9.	Specify the controls to mitigate or minimize each potential hazard.
10.	All major pieces of equipment used in each step of the operation must be identified.
11.	List inspection requirements for the work activity and equipment.
12.	List specific training requirements, including hazard communication
13.	The Contract Superintendent or Safety Officer must sign and date analysis.
14.	Contractor/Project Manager must sign and date.



**US Army Corps
of Engineers**
St. Louis District®

**Accident Prevention Plan
Review Checklist
EM 385-1-1 (15 SEP 2008 Version)**

Project Name:
Contractor Name:
Contract Number:
Reviewed By:
Review Date:
Review Number:

STATUS:

Yes	No	Partial	N/A	Minimum Items Required for Accident Prevention Plan	Comments
				Does the Accident Prevention Plan include the following:	
				1. (A-1.a. thru c.) The signature sheet needs to show the following:	
				a. Plan Preparer	
				b. Plan Approver	
				c. Plan Concurrence	
				2. (A-2.a. thru d.) Background information contains the following:	
				a. Contractor's name	
				b. Contract No.	
				c. Project Name	
				d. Brief description and location on a map?	
				e. Contractor's accident experience (include copy of OSHA 300 Form, etc.)	
				f. Listing of phases of work and hazardous activities requiring an AHA	
				3. (A-3) A "Statement of Safety and Health" Policy is included in the Plan	

SCOPE OF WORK

SECTION 1 - PROJECT DESCRIPTION

1. General. The work covered by this contract and its respective task orders against this contract consist of furnishing all floating plant, plant, labor, equipment, operators, supervision/site superintendent, supplies and materials necessary to satisfactorily perform the repair, installation, demolition, removal/disposal, flood control, rehabilitation and/or restoration of U.S. Government Sponsored work on and to structures, levees, drainage ditches, drainage features, creeks, watersheds and other construction and/or rehabilitation as specified in accordance with the contract specifications and drawings contained herein and contained in task orders issued against this contract. All work shall be performed to the satisfaction of the Contracting Officer.

2. Contract Area and Construction Limits for Missouri Levee Repairs. The contract areas consist of but are not limited to floodplains and watersheds in the following Missouri Counties of Ralls, Pike, Lincoln, St. Charles. Specific contract areas and construction limits will be specified within each task order.

3. Contract Area and Construction Limits for Illinois Levee Repairs. The contract areas consist of but are not limited to floodplains and watersheds in the following Illinois Counties of Jersey, Calhoun, Greene, Pike, Scott, Morgan, and Cass. Specific contract areas and construction limits will be specified within each task order.

4. Access. The Government has obtained all necessary right-of-entry permits prior to affecting any entry into work areas in conjunction with the performance of this contract.

5. Unusual Conditions. The Contractor shall inform the Contracting Officer of any unusual conditions observed such as dumping, off road vehicle use, public solicitation or vandalism.

6. Equipment. The Contractor shall provide all equipment necessary to perform the work described herein. Contractor equipment used in the performance of this contract shall be of suitable size and type for the intended use and shall be inspected daily by the Contractor and maintained in a safe and good working condition. Contractor equipment found to be unsafe or not in conformity with the contract specification shall be removed from work site immediately.

6.1 Equipment Maintenance, Repairs and Storage. The Contractor shall provide all lubricants, fuels, fluids and repairs necessary for the operation and maintenance of Contractor furnished equipment. The Contractor may store equipment at worksites during task order performance. However, the Government assumes no responsibility for the safety or security of equipment stored. Equipment shall be removed from the worksite within ten (10) days after the completion and acceptance of the work within each task order. Storage site shall be restored to original condition.

7. Vehicles. The Contractor shall keep all Contractor vehicles clean and in safe operating condition and shall be clearly marked with identification showing, the Contractor's name and type of business.

8. Materials. The Contractor shall provide all materials necessary to perform the work described herein. All materials used in the performance of this contract shall be of suitable size, type and quality for the intended use.

8.1 Material Storage. The Contractor may store materials at the worksite; however, the Government assumes no responsibility for the safety or security of materials stored. Materials shall be removed from the work site within ten (10) days after the completion of the work within each task order. Storage site shall be restored to original condition.

9. Contractor. The term Contractor refers to the prime Contractor and all contractor employees and personnel. The prime Contractor shall be responsible for ensuring all subcontractors comply with the provisions of this contract.

10. Contractor Representative. A foreman or superintendent shall be assigned to represent the interests of the contractor with regards to all matters involving this contract.

11. Supervision/Site Superintendent. The Contractor shall provide adequate supervision/site superintendent of his/her employees and/or any subcontractor employees to insure compliance with contract specifications and task orders. The Contractor shall furnish a telephone number and a mailing address through which he/she can normally be contacted on a daily basis and must supply in writing the name(s) of his/her designated representative supervisor(s) or site superintendent who can be contacted on a daily basis. **All costs associated with supervision/site superintendent shall be borne by the Contractor and no separate payment will be made therefore.**

12. Contracting Officer (CO). The term "Contracting Officer" shall mean the person executing this contract on behalf of the Government, and any other officer or civilian employee who is properly designated Contracting Officer; and the term shall include, except as otherwise provided in this contract, the authorized representative of a Contracting Officer acting within the limits of their authority.

13. Contracting Officer's Representative (COR). An Individual designated in writing by the Contracting Officer to be responsible for administration of the contract and Quality Assurance Representative.

14. Applicable Publications. The Contractor shall perform all work in accordance with applicable publications. They include but are not limited to:

Manufacturer's Recommendations: For equipment and materials used by the Contractor.

Industrial Standards and Codes (latest editions)

- American National Standards Institute (ANSI)
- American Society for Testing and Materials (ASTM)
- Corps of Engineers Manual, EM 385-1-1, Safety and Health Requirements Manual, September 1996 copies of which are available at www.hq.usace.army.mil/soh/hqusace_soh.htm.
- Corps of Engineers, Guide Specification, Military Construction, Painting, General (CEGS-09900)
- OSHA Safety Standards
- Federal Specifications for Colors and Tints (No. 595a & Changes Notices)
- American Association of State Highway and Transportation Officials (AASHTO)
- Missouri Standard Specifications for Highway Construction. References to this publication or its Sections and Articles pertaining to culvert installation and materials are to the State of Missouri, Missouri State Highway Commission, "Missouri Standard Specifications for Highway Construction", and the Missouri Highway and Transportation Commission, "Standard Plans", 2013 edition (or updates thereof) unless otherwise specified. The term "Engineer" as used therein shall be interpreted to mean "Contracting Officer".
- Illinois Standard Specifications. References to this publication or its Sections and Articles pertaining to pipe culvert and appurtenances and materials are to the State of Illinois "Standard Specifications for Road and Bridge Construction", adopted July 1, 2013 (or updates thereof) unless otherwise specified. The term "Engineer" as used therein shall be interpreted to mean "Contracting Officer".

15. Contractor Work Plan. At the Pre-Work Conference and Work Site Inspection, the Contractor shall submit to the Contracting Officer for review and approval, the Contractor Work Plan in accordance with EM 385-1-1. Any Contractor requested changes to an approved Contractor Work Plan shall be submitted to the Contracting Officer for review and approval no later than twenty-four (24) hours prior to implementation of any change. The Contractor Work Plan shall include at a minimum, but is not limited to, the following;

- (1) The names(s), mailing address(es) and telephone number(s) of the Contractor and/or persons of authority through which they can be contacted during regular and irregular business hours
- (2) The name(s) and telephone number(s) of the Contractor Representative(s) to whom deficiencies are to be reported and through which they can be contacted during regular business hours,
- (3) The number of personnel and how personnel are to be used in the performance of the work,
- (4) The schedules, including dates of commencement and anticipated dates of completion, and the personnel to be used in the performance of each phase or area of work.
- (5) The methods to be used in one performance of each phase in area of work
- (6) The equipment and materials to be used in performance of the work
- (7) The Contractor's Quality Control Program

- (8) The Contractor's Accident Prevention Program, as required by EM 385-1-1, including;
- (a) The Administrative Plan, LMV Form 358-R
 - (b) The Job Hazard Analysis, LMV Form 359-5

SECTIONS 2 AND 3 – NOT USED

SECTION 4 - RENTAL OF EQUIPMENT, OPERATING PERSONNEL, AND LABOR

1. General. The equipment and tradesmen described within this section shall be used for performing required operations in connection with the general scope of work of this contract and in accordance with specifications and drawings contained in this contract and/or task order.

1.1 Equipment Rental Prices. The rental prices for equipment shall include equipment, fuel, lubricants, repairs, supervision/site superintendent, project management and such other personnel or equipment as necessary. Operators of equipment shall not be included in equipment rental prices and shall be charged under the operator group line item to which the equipment group relates unless specified otherwise. The equipment furnished shall be of standard make and the capacities indicated herein. All equipment and labor furnished by the Contractor shall be subject to the approval of the Contracting Officer.

1.2 Operators. Personnel furnished as operators for equipment shall be thoroughly qualified in the use of equipment in order that maximum capacity may be obtained. All personnel furnished by the Contractor shall be subject to the approval of the Contracting Officer.

1.3 Tradesmen Rental Prices. The rental prices for tradesmen shall include tradesmen utilized, supervision/site superintendent and such other personnel or equipment as necessary for performance of work at the worksite. Tradesmen shall be thoroughly qualified in their specific trade in order that maximum capacity may be obtained. All tradesmen furnished by the Contractor shall be subject to the approval of the Contracting Officer.

2. Delivery and Release of Equipment.

2.1 Delivery of Equipment. The Contractor shall deliver the necessary equipment with personnel to the worksite of each task order and begin work as required by each task order. Equipment shall be made available onsite at the work location within 24 hours of issuance of a Notice to Proceed by the Contracting Officer or Contracting Officer's Representative (COR) unless specified otherwise within the contract specification.

2.2 Release of Equipment. Upon completion and acceptance of the work, the equipment will be released to the Contractor at the location of work as determined by the Contracting Officer.

3. Operating and Working Time.

3.1 Operating Time. The equipment and labor shall be available for operation during daylight hours, Monday through Friday, weather and other conditions permitting. During emergencies as declared by the Contracting Officer or Contracting Officer's Representative thereof, equipment and labor shall be available for up to 24 hour operations Sunday through Saturday. No work will be performed when soil and/or weather conditions, in the opinion of the Contracting Officer or Contracting Officer's Representative, at the site will not permit efficient and economical operations.

3.2 Suspension of Operations. Should soil and/or weather conditions develop during the life of the task order, which will, in the opinion of the Contracting Officer, make further work impracticable or undesirable, the Contractor will be ordered to suspend operations until such time as the working conditions improve and become suitable for further work to proceed. The Contractor shall be required to recommence work within 48 hours as directed by the Contracting Officer or Contracting Officer's Representative. No adjustment in contract price will be made to the Contractor, resulting from any suspension of work up to and including sixty (60) consecutive calendar days, however the task order work period will be extended for each working day that operations are suspended. If work is to be suspended for over sixty (60) days after the receipt of the suspension order, the Contracting Officer will provide one of the following directions:

a. Remobilization. If it is in the best interest of the Government, all equipment will be directed to be demobilized until such time as working conditions improve and become suitable for further work to proceed. At such time the Contractor will be directed to remobilize and complete all remaining work. An equitable adjustment pursuant to the "Changes" Clause will be made for the additional mobilizations and demobilization costs.

b. Price Adjustment. The suspension may be ordered to remain in effect until such time as working conditions improve and become suitable for further work to proceed. An adjustment in contract price in accordance with the Contract Clause entitled "Suspension of Work" will be made for any suspension in excess of sixty (60) consecutive calendar days.

c. Termination. Task order times for work required within the specifications of this section and for work directly associated with the performance of the specifications of this section may be terminated in accordance with the Contract Clause entitled "Termination for Convenience of the Government".

4. Maintenance and Replacement of Equipment.

4.1 Maintenance. The Contractor shall make repairs and conduct maintenance of equipment, and the working equipment shall be in safe and good working condition when in use. The Contractor shall keep small repair and replacements parts to minimize the amount of lost time in a manner satisfactory to the Contracting Officer. The Contractor shall furnish all fuel, lubricants, and other operating supplies as required for the proper operation of the equipment. Costs for the foregoing shall be included in the contract unit prices and no separate payment therefore will be made.

4.2 Replacements. The Contractor to the satisfaction of the Contracting Officer shall, promptly replace any equipment which, in the opinion of the Contracting Officer, proves to be deficient in quality as the work progresses. If the Contractor does not promptly make such deficient equipment good, the Contracting Officer reserves the right to terminate the use of such equipment.

4.3 Alternative Equipment. The Contractor may propose for use alternative types of equipment not included in the specifications. The suitability of the alternative equipment must be demonstrated to the Contracting Officer by a field test conducted by and at the expense of the Contractor. Procedures for testing will be provided by the Contracting Officer. Each proposed alternative type of equipment must be capable of performing equal to or greater in all capacities to that equipment specified herein. The Contracting Officer shall have final approval of utilization of Alternative Equipment.

5.0 Group-1 Equipment Rental and Operating Personnel

5.1 Low Ground Pressure Track-Type Bulldozer. LGP Track-Type bulldozers shall have a minimum of one hundred eighty (180) horsepower at the flywheel, with productive earthmoving blade, designed for maximum earth moving productivity, or with rake attachment, designed to remove small stumps, rocks and roots.

5.2 Track-Type Loader. Track-type loaders shall have a minimum of one hundred sixty (160) horsepower at the flywheel, with a minimum 2.25 cubic yard multipurpose bucket with teeth.

5.3 Track-Type Hydraulic Backhoe Excavator. Track-Type Hydraulic Backhoe Excavators shall have a minimum of one hundred fifty five (155) horsepower at the flywheel and have a minimum dipper size of one cubic yards with various bucket attachments not limited to articulating grapple clam bucket, ditch cleaning bucket or side tilting buckets.

5.4 Motor Grader. Motor Grader shall have a minimum of one hundred forty five (145) horsepower at the flywheel and have a minimum blade length of twelve (12) foot with grader mount scarifier.

5.5 Wheel Tractor and Disc plow with Harrow. Wheel Tractor shall have a minimum of two hundred (200) horsepower at the flywheel, with disc plow and harrow attached, designed to cut both standing and downed vegetation and plow soil to a minimum depth of eight (8) inches. Disc plow and Harrow shall have a minimum width of ten feet.

5.6 Rubber-Tired/Tracked Tractor with Two-Scraper Pans. Rubber-Tired/Tracked tractor shall have a minimum of four hundred (400) horsepower at the flywheel, with the capability of pulling two seventeen (17) cubic yard scraper pans. The tractor with two scraper pans will be one item.

5.7 Self-Propelled Sheetsfoot Roller. Self-Propelled Sheetsfoot Rollers shall conform to the towed roller requirements for the length and spacing of tamping feet, the empty weight per foot of drum and cleaning devices of tractor drawn rollers specified herein. However, self-propelled rollers exceeding the empty weight requirement of tractor drawn tamping rollers may be used, provided that by substitution of tamping feet having face area not exceeding fourteen (14) square inches, the nominal foot pressure on the tamping feet of the self-propelled roller can be adjusted to approximate the foot pressure of the towed roller for the particular working conditions. Self-propelled rollers conforming to the above requirements but with tamping feet exceeding the fourteen (14) square inch maximum face area may be approved for use provided the Contractor demonstrates to the satisfaction of the Contracting Officer by field test that the roller can properly compact the fill without creating planes of weakness or laminations. For the self-propelled rollers in which steering is accomplished through the use of rubber-tired wheels, the tire pressures shall not exceed forty (40) pounds per square inch. The roller shall be operated at a speed of not more than three and one-half (3.5) miles per hour.

5.8 Pull Type Sheepsfoot Roller. Pull Type Sheepsfoot roller shall have a minimum of pull type static roller with a forth eight (48) inch inside diameter and sixty (60) inch single drum width and having four hundred twenty (420) gallon capacity and can carry ballast of liquid or sand. The roller shall be towed at a speed not to exceed five miles per hour. The character and efficiency of this equipment shall be subject to approval of the Contractor Officer.

5.9 Operator-Group 1. The operator to be furnished shall be capable and certified to operate equipment as specified in this contract as Group-1 Equipment.

6.0 Group-1 Equipment Rental and Operating Personnel – Measurement

6.1 Equipment Rental. The Contracting Officer will compute measurement for equipment rental in hours of productive operation. In computing the number of hours of productive operation, only the time of actual operation will be considered. Standby or idle time, including lunch period when equipment is not operating, will not be paid for, except that time up to 15 minutes per 8-hour time period spent in refueling, greasing, oiling, breakdowns, cleaning of tracks or in replacing of parts will be paid for. Hours of actual operation shall include also site-to-site mobilizations within each contract work area and time spent receiving field instructions from the Contracting Officer or Contracting Officer's Representative. Measurement for payment of equipment rental shall be to the nearest ½ Hour of productive operation.

6.2 Equipment Rental (Weekly). The Contracting Officer will compute measurement for Equipment Rental Weekly in weeks of rental. In computing the number of weeks of rental, only the time of actual rental will be considered starting from the time equipment is mobilized onsite and in operating condition. A week shall consist of seven (7) calendar days consisting of twenty-four hours per day. Weekly rental rates shall apply to Group – 1 Equipment as shown in the line item schedule as (Weekly). At the Contracting Officer's direction, Weekly Rental Rates shall be utilized in the event of emergencies as determine by the Contracting Officer when multiple shifts are required per day and equipment is to be utilized on multiple shifts for extended period of times.

6.3 Operator - Group 1 – Straight Time. The Contracting Officer will compute measurement for "Operator-Group 1-Straight Time" in hours of productive operation up to an 8 hour shift per day. In computing the number of hours of productive operation, only the time of actual operation will be considered. Standby or idle time, including lunch period when equipment is not operating, will not be paid for, except that time up to 15 minutes per 8-hour time period spent in refueling, greasing, oiling, breakdowns, cleaning of tracks or in replacing of parts will be paid for. Hours of actual operation shall include also site-to-site mobilizations within each contract work area and time spent receiving field instructions from the Contracting Officer or Authorized Representative. Operator-Group 1 shall be charged when operators are supplied by the contractor for operation of equipment as specified in the contract as Group-1 Equipment.

6.4 Operator-Group 1-Overtime. The Contracting Officer will compute measurement for "Operator-Group 1-Overtime" in hours of productive operation for hours in excess of an 8 hour shift per day up to a total 12 hour shift per day per operator. In computing the number of hours of productive operation, only the time of actual operation will be considered. Standby or idle time, including lunch period when equipment is not operating, will not be paid for, except that time up to 15 minutes per 8-hour time period spent in refueling, greasing, oiling, breakdowns, cleaning of tracks or in replacing of parts will be paid for. Hours of actual operation shall include also site-to-site mobilizations within each contract work area and time spent receiving field instructions from the Contracting Officer or Authorized Representative. Operator-Group 1 shall be charged when operators are supplied by the contractor for operation of equipment as specified in the contract as Group-1 Equipment.

7. Group-1 Equipment Rental and Operating Personnel - Payment.

7.1 Mobilizations and Demobilization of Equipment. Payment for mobilization and demobilization of all Contractor Group 1 Equipment will be made at the applicable negotiated lump sum price for "(GROUP 1 EQUIPMENT)", Mobilization and Demobilization (TBD)" for all pieces of equipment listed on the bidding schedule and as specified in the contract specifications as Group 1 Equipment and required within each task order issued, which prices shall constitute full compensation for the cost of all transportation for each piece of equipment which includes but not limited to state permits, hauling permit fees, licensing, truck driver, operator, labor, fuel, materials, supplies, repairs, supervision, tractor trailers, trailers and support equipment necessary to deliver each piece of equipment required by the task order to the worksite, on the ground and in operating condition and to remove each piece of equipment from the worksite. Mobilizations and Demobilization of Equipment shall be negotiated prior to issuance of each task order.

7.2 Equipment Rental . Payment for all equipment rental under this section will be made at the respective contract per hour price for (EQUIPMENT DESCRIPTION), which prices and payments shall constitute full compensation for the cost of equipment, fuel, materials, supplies, repairs, supervision, support equipment, and incidentals necessary to complete the work specified within the contract specifications and each task order.

7.3 Equipment Rental (Weekly). Payment for all Equipment Rental (Weekly) under this section will be made at the respective contract per week price for (EQUIPMENT DESCRIPTION (Weekly)), which prices and payments shall constitute full compensation for the cost of equipment, fuel, materials, supplies, repairs, supervision, support equipment, and incidentals necessary to complete the work specified within the contract specifications and each task order.

7.4 Operator-Group 1-Straight Time. Payment for all operators under this item will be made at the respective contract per hour price for (Operator-Group 1-Straight Time), which prices and payments shall constitute full compensation for the cost of operators, materials, supplies, supervision, support equipment, and incidentals necessary to complete the work specified within contract specifications and each task order. No additional payment will be made for lodging or transportation to and from the worksite.

7.5 Operator-Group 1-Overtime. Payment for all operators under this item will be made at the respective contract per hour price for (Operator-Group 1-Overtime), which prices and payments shall constitute full compensation for the cost of operators, materials, supplies, supervision, support equipment, and incidentals necessary to complete the work specified within contract specifications and each task order. No additional payment will be made for lodging or transportation to and from the worksite.

8.0 Group-2 Equipment Rental and Operating Personnel

8.1 Highway Truck with Dump. Highway truck with dump with tailgate shall be a minimum of two hundred (200) horsepower; 30,000 lbs. gross vehicle weight, two (2) axles, and fifteen (15) cubic yard capacity.

8.2 Off Highway Truck with Dump without Tailgate. Off Highway Truck with Dump without Tailgate shall be a minimum of two hundred fifty (250) net horsepower, articulated 6 x 6 turbocharged, low ground pressure, 100% lock-up differentials, floatation tires, without tailgate and minimum forty (40) cubic yard struck capacity (SAE).

8.3 Operator-Group 2. The operator to be furnished shall be capable and certified to operate equipment as specified in this contract as Group-2 Equipment.

9.0 Group-2 Equipment Rental and Operating Personnel – Measurement

9.1 Equipment Rental . The Contracting Officer will compute measurement for equipment rental in hours of productive operation. In computing the number of hours of productive operation, only the time of actual operation will be considered. Standby or idle time, including lunch period when equipment is not operating, will not be paid for, except that time up to 15 minutes per 8-hour time period spent in refueling, greasing, oiling, breakdowns, cleaning of tracks or in replacing of parts will be paid for. Hours of actual operation shall include also site-to-site mobilizations within each contract work area and time spent receiving field instructions from the Contracting Officer or Contracting Officer's Representative. Measurement for payment of equipment rental shall be to the nearest ½ Hour of productive operation.

9.2 Operator - Group 2 – Straight Time. The Contracting Officer will compute measurement for “Operator-Group 2-Straight Time” in hours of productive operation up to an 8 hour shift per day. In computing the number of hours of productive operation, only the time of actual operation will be considered. Standby or idle time, including lunch period when equipment is not operating, will not be paid for, except that time up to 15 minutes per 8-hour time period spent in refueling, greasing, oiling, breakdowns, cleaning of tracks or in replacing of parts will be paid for. Hours of actual operation shall include also site-to-site mobilizations within each contract work area and time spent receiving field instructions from the Contracting Officer or Contracting Officer's Representative. Operator-Group 2 shall be charged when operators are supplied by the contractor for operation of equipment as specified in the contract as Group-2 Equipment.

9.3 Operator-Group 2-Overtime. The Contracting Officer will compute measurement for “Operator-Group 2-Overtime” in hours of productive operation for hours in excess of an 8 hour shift per day up to a total 12 hour shift per day per operator. In computing the number of hours of productive operation, only the time of actual operation will be considered. Standby or idle time, including lunch period when equipment is not operating, will not be paid for, except that time up to 15 minutes per 8-hour time period spent in refueling, greasing, oiling, breakdowns, cleaning of tracks or in replacing of parts will be paid for. Hours of actual operation shall include also site-to-site mobilizations within each contract work area and time spent receiving field instructions from the Contracting Officer or Contracting Officer's Representative. Operator-Group 2 shall be charged when operators are supplied by the contractor for operation of equipment as specified in the contract as Group-2 Equipment.

10.0 Group-2 Equipment Rental and Operating Personnel - Payment.

10.1 Mobilizations and Demobilization of Equipment. Payment for mobilization and demobilization of all Contractor Group 2 Equipment will be made at the applicable negotiated lump sum price for "(GROUP 2 EQUIPMENT)", Mobilization and Demobilization (TBD)" for all pieces of equipment listed on the bidding schedule and as specified in the contract specifications as Group 2 Equipment and required within each task order issued, which prices shall constitute full compensation for the cost of all transportation for each piece of equipment which includes but not limited to state permits, hauling permit fees, licensing, truck driver, operator, labor, fuel, materials, supplies, repairs, supervision, tractor trailers, trailers and support equipment necessary to deliver each piece of equipment required by the task order to the worksite, on the ground and in operating condition and to remove each piece of equipment from the worksite. Mobilizations and Demobilization of Equipment shall be negotiated prior to issuance of each task order.

10.2 Equipment Rental . Payment for all equipment rental under this section will be made at the respective contract per hour price for (EQUIPMENT DESCRIPTION), which prices and payments shall constitute full compensation for the cost of equipment, fuel, materials, supplies, repairs, supervision, support equipment, and incidentals necessary to complete the work specified within the contract specifications and each task order.

10.3 Operator-Group 2-Straight Time. Payment for all operators under this item will be made at the respective contract per hour price for (Operator-Group 2-Straight Time), which prices and payments shall constitute full compensation for the cost of operators, materials, supplies, supervision, support equipment, and incidentals

necessary to complete the work specified within contract specifications and each task order. No additional payment will be made for lodging or transportation to and from the worksite.

10.4 Operator-Group 2-Overtime. Payment for all operators under this item will be made at the respective contract per hour price for (Operator-Group 2-Overtime), which prices and payments shall constitute full compensation for the cost of operators, materials, supplies, supervision, support equipment, and incidentals necessary to complete the work specified within contract specifications and each task order. No additional payment will be made for lodging or transportation to and from the worksite.

11.0 Group-3 Equipment Rental and Operating Personnel

11.1 Water and Trash Pump, (1,450 GPM). Water and trash pump shall have a minimum capacity of one thousand four hundred and fifty (1,450) gallon per minute with a maximum 150-foot static head with the capabilities of being operated consecutive days up to twenty four (24) hours per day. Pump shall come equipped with Automatic Floats capable of triggering a low and high limit set point that can be installed up to 100 FT from the pump. Pump shall be made available onsite in operating condition within seven (7) calendar days of notification to proceed by the Contracting Officer or Authorized Representative.

11.2 Water and Trash Pump, (1,450 GPM), Suction & Discharge Pipe, Setup and Tear Down. Water and trash pump shall have a minimum capacity of one thousand four hundred and fifty (1,450) gallon per minute with a maximum 150-foot static head. Setup and teardown shall include delivery, removal, connections to pump, setup, operation, and teardown of all suction and discharge lines required for operation of the pump. Suction and Discharge lines shall be of the make and model as specified and required by the manufacturer of the pump. Connections and installation shall be made as specified and required by the manufacturer of the pump and pipe. On each occurrence the contractor shall furnish a minimum 40 feet of suction pipe and 60 feet of discharge pipe for measurement and payment. Additional length of pipe shall be supplied as specified by the Contracting Officer per task order and payment shall be made under the line item to which it relates. Location of lines shall be as specified by the Contracting Officer or Authorized Representative. Work shall include all labor, plant, supplies, and material required for setup and teardown of suction and discharge lines. All suction and discharge lines shall remain in place until completion of pumping operations.

11.3 Vibratory Plate Tamper. The Vibratory Plate Tamper to be furnished shall include a hand or powered operated plate or foot type vibratory power tamper, powered, hand operated, and has a minimum force of two thousand five hundred (2,500) pounds.

11.4 Operator-Group 3. The operator to be furnished shall be capable and certified to operate equipment as specified in this contract as Group-4 Equipment.

12.0 Group-3 Equipment Rental and Operating Personnel – Measurement

12.1 Equipment Rental – (Daily). The Contracting Officer will compute measurement for equipment rental in days of productive operation for line items with pump description listed as (Daily). In computing the number of days of productive operation, only the time of actual pump operation based on a 24 hour day will be considered. The Contracting Officer will compute measurement to the nearest half day.

12.2 Equipment Rental . The Contracting Officer will compute measurement for equipment rental in hours of productive operation. In computing the number of hours of productive operation, only the time of actual operation will be considered. Standby or idle time, including lunch period when equipment is not operating, will not be paid for, except that time up to 15 minutes per 8-hour time period spent in refueling, greasing, oiling, breakdowns, or in replacing of parts will be paid for. Hours of actual operation shall include also site-to-site mobilizations within each contract work area and time spent receiving field instructions from the Contracting Officer or Contracting Officer's Representative. Measurement for payment of equipment rental shall be to the nearest ½ Hour of productive operation.

12.3 Suction & Discharge Pipe, Setup and Teardown. The Contracting Officer will compute measurement of Suction & Discharge Pipe, Setup and Teardown in linear feet of suction and discharge line delivered, installed, and in operating condition at the worksite.

12.4 Operator - Group 3 – Straight Time. The Contracting Officer will compute measurement for “Operator-Group 3-Straight Time” in hours of productive operation up to an 8 hour shift per day. In computing the number of hours of productive operation, only the time of actual operation will be considered. Standby or idle time, including lunch period when equipment is not operating, will not be paid for, except that time up to 15 minutes per 8-hour time period spent in refueling, greasing, oiling, breakdowns, cleaning of tracks or in replacing of parts will be paid for. Hours of actual operation shall include also site-to-site mobilizations within each contract work area and time spent receiving field instructions from the Contracting Officer or Contracting Officer’s Representative. Operator-Group 3 shall be charged when operators are supplied by the contractor for operation of equipment as specified in the contract as Group-3 Equipment.

12.5 Operator-Group 3-Overtime. The Contracting Officer will compute measurement for “Operator-Group 3-Overtime” in hours of productive operation for hours in excess of an 8 hour shift per day up to a total 12 hour shift per day per operator. In computing the number of hours of productive operation, only the time of actual operation will be considered. Standby or idle time, including lunch period when equipment is not operating, will not be paid for, except that time up to 15 minutes per 8-hour time period spent in refueling, greasing, oiling, breakdowns, cleaning of tracks or in replacing of parts will be paid for. Hours of actual operation shall include also site-to-site mobilizations within each contract work area and time spent receiving field instructions from the Contracting Officer or Authorized Representative. Operator-Group 3 shall be charged when operators are supplied by the contractor for operation of equipment as specified in the contract as Group-3 Equipment.

13.0 Group-3 Equipment Rental and Operating Personnel - Payment.

13.1 Mobilizations and Demobilization of Equipment. Payment for mobilization and demobilization of all Contractor Group 3 Equipment will be made at the applicable negotiated lump sum price for "(GROUP 3 EQUIPMENT)", Mobilization and Demobilization (TBD)" for all pumps listed on the bidding schedule and as specified in the contract specifications as Group 3 Equipment and required within each task order issued, which prices shall constitute full compensation for the cost of all transportation for each piece of equipment which includes but not limited to state permits, hauling permit fees, licensing, truck driver, operator, labor, fuel, materials, supplies, repairs, supervision, tractor trailers, trailers and support equipment necessary to deliver each pump and incidental equipment to the worksite, set up to operating condition, teardown, and removal of the pump and all incidental equipment from the worksite. Mobilizations and Demobilization of Equipment shall be negotiated prior to issuance of each task order.

13.2 Equipment Rental – (Daily). Payment for all equipment rental for line items with pump description listed as “(Daily)” under this section will be made at the respective contract per day price for “(PUMP DESCRIPTION), (Daily)”, which prices and payments shall constitute full compensation for the cost of equipment, fuel, materials, supplies, repairs, supervision, support equipment, and incidentals necessary to complete the work specified within the contract specifications and each task order.

13.3 Equipment Rental. Payment for all equipment rental unless specified otherwise under this section will be made at the respective contract per hour price for (PUMP DESCRIPTION), which prices and payments shall constitute full compensation for the cost of equipment, fuel, materials, supplies, repairs, supervision, support equipment, and incidentals necessary to complete the work specified within the contract specifications and each task order.

13.4 Suction & Discharge Pipe, Setup and Teardown. Payment for setup and teardown of all suction & Discharge Pipe will be made at the applicable contract unit price per linear foot for “(PUMP DESCRIPTION), (Suction & Discharge Pipe, Setup and Teardown)” for each piece of pipe listed on bidding schedule and as specified in the contract specification, which prices and payment shall constitute full compensation for the cost of equipment, operator, labor, fuel, materials, supplies, repairs, supervision and support equipment necessary to deliver, setup and teardown each piece of suction and discharge pipe to the worksite, on the ground and in operating condition and to remove each piece of suction and discharge pipe from the worksite upon completion of pumping operations.

13.5 Operator-Group 3-Straight Time. Payment for all operators under this item will be made at the respective contract per hour price for (Operator-Group 3-Straight Time), which prices and payments shall constitute full compensation for the cost of operators, materials, supplies, supervision, support equipment, and incidentals necessary to complete the work specified within contract specifications and each task order. No additional payment will be made for lodging or transportation to and from the worksite.

13.6 Operator-Group 3-Overtime. Payment for all operators under this item will be made at the respective contract per hour price for (Operator-Group 3-Overtime), which prices and payments shall constitute full compensation for the cost of operators, materials, supplies, supervision, support equipment, and incidentals necessary to complete the work specified within contract specifications and each task order. No additional payment will be made for lodging or transportation to and from the worksite.

SECTION 5 AND 6 – NOT USED

SECTION 7 - MATERIALS

1. Scope. The work covered by this section consists of furnishing all plant, labor, equipment, supplies and supervision necessary for delivery of the materials listed herein to the various jobsites as contained in task orders issued against this contract. All materials furnished by the Contractor shall be subject to the approval of the Contracting Officer.

2. Quality Control.

2.1 General. The Contractor shall establish and maintain quality control for materials to assure compliance with contract requirements and maintain detailed record of quality control for all delivery operations including, but not limited to conformance of materials to specification requirements.

2.2 Reporting. One copy of these records and tests, as well as records of corrective action taken, shall be furnished to the Government daily when work covered by this section is being performed.

3. Rock Materials

3.1 Aggregate for Base. Aggregate for base shall conform to applicable publications.

4. General Site Work Materials

4.1 Temporary Project Safety Fencing. As soon as practicable, but not later than five (5) days after the date established for commencement of work, within each task order which requires safety fencing, the Contractor shall furnish and erect temporary project safety fencing at the site of work. The fencing shall be high visibility orange colored, high density polyethylene grid or approved equal, a minimum of forty-two (42) inches high, supported and tightly secured to steel posts located on maximum ten (10) foot centers. Fencing shall be constructed at locations shown on task order drawings or in accordance with EM 385-1-1. The fencing shall be and remains the property of the Contractor, shall be maintained by the Contractor during the life of the task order, and shall be removed by the Contractor from the site of the work within five (5) days after completion and acceptance of the work of each task order.

4.2 Silt Filter Fence. Silt Filter Fence shall be supported on wooden posts at least six (6) feet in length and spaced on five (5) foot centers with three (3) foot into the ground and securely attached to the post.

4.3 Straw bales. Straw bales shall consist of wheat, oats, barley, rye, or rye. Straw bales shall be two – wired with the minimum dimensions of 14 inches high, 18 inches wide, and 32 inches long. Bales should be firm and strung tightly with baling wire.

5.0 Measurement.

5.1 Aggregate. Measurement for payment for Aggregate will be by the ton (2,000 lbs.) delivered. The weights to be paid for will be determined from certified weight tickets, which shall be furnished by the Contractor at no additional cost to the Government. A certified weight ticket shall be defined as each truck being weighed empty, and again when loaded and the ticket, identified by the Contractor's name and the contract number, signed by the approved quarry representative with the statement "Certified Correct". This procedure will be followed for each load hauled. The Contractor shall verify the accuracy and the completeness of each ticket before submitting it to the Government and shall initial each ticket to reflect verification. The Contractor shall furnish certification stating that the scales used were tested and approved by the local authority.

5.2 Temporary Project Safety Fencing. Measurement for payment for Temporary Project Safety Fencing will be by the linear foot delivered and installed at the jobsite.

5.3 Silt Filter Fence. Measurement for payment for Silt Filter Fence will be by the linear foot delivered and installed at the jobsite.

5.4 Straw bales. Measurement for payment for Straw Bales will be per each straw bale delivered to the jobsite.

6. Payment.

6.1 Aggregate. Payment for all Aggregate under task orders against this contract will be made at the applicable contract unit price per ton for "Aggregate for Surfacing and Pipe Bedding" which price shall constitute full compensation for delivery Aggregate to the jobsite location designated by the Contracting Officer.

6.2 Temporary Project Safety Fencing. Payment for temporary project safety fencing will be made at the contract unit per linear foot price for "Temporary Project Safety Fencing" which price and payment shall constitute full compensation for the cost of materials, supplies, erection, maintenance and removal of fencing specified with task orders.

6.3 Silt Filter Fence. Payment for silt filter fence will be made at the contract unit per linear foot price for "Silt Filter Fence" which price and payment shall constitute full compensation for the cost of materials, supplies, erection, maintenance of fencing specified with task orders.

6.4 Straw Bales. Payment for straw bales will be made at the contract unit per each price for "Straw Bales" which price and payment shall constitute full compensation for the cost of materials, supplies, delivery of straw bales specified with task orders.

SECTION 8 – CONCRETE

1. Scope. The work covered by this section consists of furnishing all plant, labor, equipment, supplies and supervision necessary for testing, mixing, and delivery of the materials listed herein to the various jobsites as contained in task orders issued against this contract. All materials furnished by the Contractor shall be subject to the approval of the Contracting Officer.

2. Quality Control.

2.1 General. The Contractor shall establish and maintain quality control for materials to assure compliance with contract requirements and maintain detailed records of quality control for all delivery and construction operations including, but not limited to, the following:

(1) Specification Requirements. Check for conformance of materials to specification requirements.

2.2 Reporting. One copy of these records and tests, as well as records or corrective action taken, shall be furnished to the Government daily when work covered by this section is being performed.

3. General. All methods of testing and materials shall be in accordance with applicable publication specifications.

4.0 Materials

4.1 Concrete Type II. Concrete Type II specified compressive strength f'_c shall be 4000 pounds per square inch at 14 days. Concrete shall have a minimum cementitious content of 500 pounds per cubic yard and a maximum water cement ratio by weight of 0.45. The maximum nominal size coarse aggregate shall be 1-inch. The air content shall be 6.0+ 1.5 percent. The slump shall not vary more than + 1-1/2 inch from 3-1/2 inches. Prior to placement of concrete, the Contractor shall submit for government approval mixture proportions to be used during construction, which will produce concrete of the qualities required along with the source of concrete.

4.1.1 Concrete Tests and Inspections. The individuals who sample and test concrete as required in this specification shall have demonstrated a knowledge and ability to perform the necessary test procedures equivalent to the ACI minimum guidelines for certification of Concrete Field Testing Technicians, Grade I. The results of all tests and inspections conducted at the project site shall be reported in writing daily. Contractor shall be required to perform concrete testing at the direction of the Contracting Officer or Authorized Representative thereof. No additional payment shall be made for concrete testing and shall be considered incidental to the work performed.

4.1.2 Air Content. Air content shall be checked at least once during each shift that concrete is placed. Samples shall be obtained in accordance with ASTM C172 and tested in accordance with ASTM C231. Whenever a test result is outside the specification limits (between 4.5 and 7.5 percent), the concrete shall not be delivered to the forms and an adjustment shall be made to the dosage of the air-entrained mixture.

4.1.3 Slump. Slump shall be checked at least once during each shift that concrete is produced. Samples shall be obtained in accordance with ASTM C172 and tested in accordance with ASTM C143. Whenever a test result is outside the specification limits (between 2 and 5 inches), the concrete shall not be delivered to the forms and an adjustment shall be made in the batch weights of water and fine aggregate. The adjustments are to be made so that the water-cement ratio does not exceed that specified in the submitted concrete mixture proportion.

4.1.4 Strength. The strength of the concrete shall be checked at least once during each shift that concrete is produced. A total of three test specimens, one tested at seven days and two tested at twenty-eight days, shall be obtained in accordance with ASTM C172 and test specimens made in accordance with ASTM C31 and tested in accordance with ASTM C39. Contractor shall be required to perform concrete testing at the direction of the Contracting Officer or Authorized Representative thereof. No additional payment shall be made for concrete testing and shall be considered incidental to the work performed.

4.1.5 Concrete Finishing. All unformed surfaces that are not to be covered by additional concrete or backfill shall be float, trowel or broom finished to elevations shown on the drawings.

4.1.6 Concrete Curing and Protection. Beginning immediately after placement, and continuing for at least 7 days, unless indicated otherwise, all concrete shall be cured and protected from premature drying, extremes in temperature, rapid temperature change, freezing, mechanical damage and exposure to rain or flowing water. The Contractor shall protect the concrete from damage until acceptance of work. No material shall be placed on concrete structures for a minimum of 14 days, or until the specified strength has been tested and accepted.

5.0 Installation

5.1 Concrete. The Contractor shall install concrete to the lines and grades as directed by the Contracting Officer in accordance with applicable publications.

6.0 Measurement

6.1 Concrete Type II. Measurement for payment for delivery of concrete will be the actual number of cubic yards delivered to the job site and accepted. Measurement will be determined from Certified Load Tickets received from the Concrete Supplier. The Contractor shall submit Certified Load Tickets to the Contracting Officer or Authorized Representative. Cubic yards will be to the nearest 0.1. At a minimum the government will pay for 3 cubic yards of concrete to cover cost of short loads when requested by the Contracting Officer or Authorized Representative.

7.0 Payment

7.1 Concrete. Payment for concrete will be made at the contract unit price per cubic yard for "Concrete Type II " which price and payment shall constitute full compensation for all equipment, materials, supplies, supervision required for testing, mixing, and delivery of concrete to the jobsite location designated by the Contracting Officer.

SECTION 9 AND 10 – NOT USED

SECTION 11 - GEOTEXTILE

1. Scope. The work covered by this section consists of furnishing all plant, labor, equipment, materials, supervision and performing all operations necessary in connection with the furnishing, hauling and installing, (unless otherwise specified elsewhere to be furnished, hauled and placed,) the geotextile in accordance with this section of the specifications and as specified in task orders against this contract.

2. Quality Control.

2.1 General. The Contractor shall establish and maintain quality control for engineered materials operations to assure compliance with contract requirements and maintain detailed records of quality control for all construction operations including, but not limited to, the following:

(1) Specifications Requirements. Check for conformance of materials to specification requirements, damage or defects.

(2) Surface Preparation and Stone Placement. Embankment surface preparation and stone drop height.

(3) Placement. Correct procedure.

2.2 Reporting. One copy of these records and tests, as well as records of corrective action taken, shall be furnished to the Government daily when work covered by this section is being performed.

3. General. All methods of testing and materials shall be in accordance with applicable publication specifications.

4. Submittals.

4.1 Certificates of Compliance. Certificates of compliance attesting that the materials meet specification requirements shall be submitted.

4.2 Manufacturer's Data. Manufacturer's data shall be submitted for approval for the geotextile.

5. Materials.

5.1 Geotextile for Roadways. Geotextile for roadways shall be composed of high tenacity polypropylene yarns, which are woven, as defined by ASTM D 4632, into a stable network such that the yarns retain their relative position. Geotextile shall be inert to biological degradation and resistant to naturally encountered chemicals, alkalis and acids and shall contain stabilizers and/or inhibitors added to the base plastic if necessary to make the filaments resistant to deterioration due to ultraviolet and heat exposure. The geotextile rolls (strips) shall be manufactured in a minimum width of 12 feet.

5.2 Geotextile For Riprap. Geotextile for riprap shall be composed of polypropylene staple fibers, which are nonwoven, as defined by ASTM D 4632, into a stable network such that the yarns retain their relative position. Geotextile shall be inert to biological degradation and resistant to naturally encountered chemicals, alkalis and acids and shall contain stabilizers and/or inhibitors added to the base plastic if necessary to make the filaments resistant to deterioration due to ultraviolet and heat exposure. The geotextile rolls (strips) shall be manufactured in a minimum width of 12 feet.

6. Shipments and Storage. During all period of shipment and storage, the geotextile shall be protected from direct sunlight, ultraviolet rays, and temperatures greater than 140 degrees Fahrenheit, mud, dirt, dust and debris. To the extent possible, the geotextile shall be maintained wrapped in a heavy-duty protective covering.

7. Placement.

7.1 General. The geotextile shall be placed in a manner and at locations as shown on the drawings for applicable task orders. At the time of installation, materials shall be rejected if it has defects, rips, holes,

flaws, deterioration or damage incurred during manufacture, transportation or storage. The materials shall be placed with the long dimension (machine direction) of the materials parallel, to the centerline of the road and shall be laid smooth and free of tension, stress, folds, wrinkles, or creases. The sheets shall be placed to provide a minimum overlap width of 18 inches. Weights shall be used to temporarily hold the materials in such a manner as to prevent the wind or other disturbances from lifting the material or shifting the overlap. Temporary securing pins shall not be used. The materials shall be protected at all times during construction from contamination by surface runoff and materials so contaminated shall be removed and replaced with uncontaminated materials at no cost to the Government. The Contractor at no cost to the Government shall replace any damage to the materials during its installation.

8. Measurement.

8.1 Geotextile. Measurement for payment for geotextile will be made by the square yard delivered to the jobsite and include miscellaneous materials required for installation.

9. Payment.

9.1 Geotextile. Payment for all geotextile delivered under task orders against this contract will be made at the applicable contract unit price per square yard for "Geotextile for Roadways", "Geotextile for Riprap", which prices and payments shall constitute full compensation for furnishing all necessary plant, labor, equipment, tools, materials, hauling, supervision and incident operations necessary to deliver material and miscellaneous materials required for installation to the jobsite.

PHYSICAL PROPERTY	TEST PROCEDURE	ACCEPTABLE VALUES*
Tensile Strength (Wet)	ASTM D 1682	120 pound minimum in any principal direction
Elongation - (Wet)	ASTM D 1682	At least 15 percent but no greater than 80% in any principal direction
Coefficient of Water	Constant Head	At least 0.001 cm/sec. Permeability (50MM) but not greater than 0.20 cm/sec.
**Equivalent Opening Corps of Engineers No finer than No. 70		
Size - (EOS)	Method	No coarser than No. 30 U. S. Standard Sieve
Puncture Strength	ASTM D 3787***	75 pounds minimum
Mullen Burst Strength	ASTM D 3786	250 pounds per square inch minimum

*Unless stated otherwise all numerical values represent average roll values (i.e. any roll in a lot should meet or exceed the minimum value but not exceed the maximum value listed in the table).

**EOS applies only to geotextiles of woven construction.

***Tension testing machine with ring clamp, steel ball replace with a 5/16 inch diameter solid steel cylinder with hemispherical tip centered within the ring clamp.

SECTION 01 11 30
ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2008; Change 1-2010; Change 3-2010; Errata 1-2010) Safety and Health Requirements Manual

ER 385-1-80 (2010) Ionizing Radiation Protection

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 261 Identification and Listing of Hazardous Waste

1.2 DEFINITIONS

Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents that adversely affect human health or welfare; unfavorably alter ecological balances of plant or animal communities; or degrade the environment from an aesthetic, cultural or historic perspective. Environmental protection is the prevention/control of pollution and habitat disruption that may occur during construction. The control of environmental pollution and damage requires consideration of air, water, land, biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive materials; and other pollutants.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with SECTION 01 33 00 - SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Environmental Protection Plan; G

Submit plan detailing Contractor's procedures for complying with all applicable environmental protection regulations and the special requirements of this contract.

1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor shall comply with all applicable Federal, State, and local laws and regulations. The Contractor shall provide environmental protective measures and procedures to prevent and control pollution, limit habitat

disruption, and correct environmental damage that occurs during construction.

1.4.1 Protection of Features

This section supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. The Contractor shall prepare a list of features requiring protection under the provisions of the contract clause, which are not specially identified on the drawings as environmental features requiring protection. The Contractor shall protect those environmental features shown specially on the drawings, even if such preservation interferes with the Contractor's work under this contract.

1.4.2 Permits

This section supplements the Contractor's responsibility under the contract clause PERMITS AND RESPONSIBILITIES to the extent that the Government has already obtained environmental permits. The Contractor shall comply with the terms, and conditions of these permits which will be provided to the Contractor after award of the contract.

1.4.2.1 Special Environmental Requirements

The Contractor shall comply with any special environmental requirements, a copy of which, if applicable, is included at the end of this section. These special environmental requirements are an outgrowth of environmental commitments made by the Government during the project development.

1.4.3 Environmental Assessment of Contract Deviations

The Contract specifications have been prepared to comply with the special conditions and mitigation measures of an environmental nature which were established during the planning and development of this project. The Contractor is advised that deviations from the drawings or specifications (e.g., disposal areas, staging areas, alternate access routes, etc.) could result in the requirement for the Government to reanalyze the project from an environmental and cultural resources standpoint. The Contractor must obtain, at his expense, all necessary permits to use alternate sites including, but not limited to, Section 401 and Section 404 of the Clean Water Act, and coordination with the State Historic Preservation Officer regarding Section 106 of the National Historic Preservation Act. Deviations from the construction methods and procedures indicated by the plans and specifications which may have an environmental impact will require an extended review, processing, and approval time by the Government. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

1.5 ENVIRONMENTAL PROTECTION PLAN

Within 5 calendar days of Notice of Award, the Contractor shall submit an Environmental Protection Plan for review and acceptance by the Contracting Officer. However, the Contractor shall furnish an acceptable final plan not later than 10 calendar days after receipt of the Notice to Proceed. The

Contractor shall meet with representatives of the Contracting Officer to develop a mutual understanding relative to compliance with this section and administration of the environmental pollution control program. Acceptance is conditional and is predicated upon satisfactory performance during construction. The Government reserves the right to require the Contractor to make changes in the Environmental Protection Plan or operations if the Contracting Officer determines that environmental protection requirements are not being met. The plan shall detail the actions that the Contractor shall take to comply with all applicable Federal, State, and local laws and regulations concerning environmental protection and pollution control and abatement, as well as the additional specific requirements of this contract. No physical work at the site shall begin prior to acceptance of the Contractor's plan or an interim plan covering the work to be performed. The environmental protection plan shall include, but not be limited to, the following:

1.5.1 List of State and Local Laws and Regulations

The Contractor shall provide as part of the Environmental Protection Plan a list of all State and local environmental laws and regulations, which apply to the construction operations under the Contract.

1.5.2 Spill Control Plan

The Contractor shall include as part of the environmental protection plan, a Spill Control Plan. The plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by the Emergency Response and Community Right to Know Act or regulated under State or local laws or regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:

- a. The name of the individual who will be responsible for implementing and supervising the containment and cleanup.
- b. Training requirements for Contractor's personnel and methods of accomplishing the training.
- c. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
- d. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material placement equipment available in case of an unforeseen spill emergency.
- e. The methods and procedures to be used for expeditious contaminant cleanup.
- f. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-801-424-8802) if a

reportable quantity spill occurs. The plan shall contain a list of the required reporting channels and telephone numbers.

1.5.3 Recycling and Waste Minimization Plan

The Contractor shall submit a Recycling and Waste Minimization Plan as a part of the Environmental Protection Plan. The plan shall detail the Contractor's actions to comply with the following recycling and waste minimization requirements:

- a. The Contractor shall participate in State and local Government sponsored recycling programs to reduce the volume of solid waste materials at the source;
- b. Recovery of metal from debris and sale to recycling operation with Contractor retaining any money derived from sale;
- c. Collection of aluminum cans at the site for recycling.

1.5.4 Contaminant Prevention Plan

As a part of the Environmental Protection Plan, the Contractor shall prepare a contaminant prevention statement identifying potentially hazardous substances to be used on the job site and intended actions to prevent accidental or intentional introduction of such materials into the air, water, or ground. The Contractor shall detail provisions to be taken to meet Federal, State, and local laws and regulations regarding the storage and handling of these materials.

1.5.5 Storm Water Pollution Prevention Plan (SWPPP)

As a part of the Environmental Protection Plan, the Contractor shall prepare a Storm Water Pollution Protection Plan to ensure the design, implementation, management, and maintenance of Best Management Practices (BMP) in order to reduce the amount of sediment and other pollutants in storm water discharges associated with the land disturbance activities; comply with the Water Quality Standards of the state in which the construction activities take place. The SWPPP also ensures compliance with the terms and conditions of the Land Disturbance Permit.

1.5.6 Environmental Monitoring

The Contractor shall include in the plan the details of environmental monitoring requirements under the laws and regulations and a description of how this monitoring will be accomplished.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 SPECIAL ENVIRONMENTAL PROTECTION REQUIREMENTS

3.1.1 Tree Protection

No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized by the Contracting Officer. Where such special use is permitted, the Contractor shall provide effective protection to prevent damage to the trees and other land and vegetative resources. Unless specifically authorized by the Contracting Officer, no construction equipment or materials shall be placed or used within the dripline of trees shown on the drawings to be saved. No excavation or fill shall be permitted within the dripline of trees to be saved except as shown on the drawings.

3.1.2 U.S. Department of Agriculture (USDA) Quarantined Considerations

The Contractor shall thoroughly clean all construction equipment at the prior job site in a manner that ensures all residual soil is removed and that egg deposits from plant pests are not present. The Contractor shall consult with the USDA Plant Protection and Quarantine (USDA PPQ) jurisdictional office for additional cleaning requirements that may be necessary.

3.1.3 Not Used

3.1.4 Disposal of Solid Wastes

Solid waste is rubbish, debris, waste materials, garbage, and other discarded solid materials (excluding clearing debris and hazardous waste as defined in following paragraphs). Solid waste shall be placed in containers and disposed of on a regular schedule. All handling and disposal shall be conducted in such a way as to prevent spillage and contamination. The Contractor shall transport all solid waste off site and dispose of it in compliance with Federal, State, and local requirements. The Contractor shall comply with Federal, State, and local laws and regulations pertaining to the use of the landfill area.

3.1.5 Debris

Debris is defined as trees, tree stumps, tree trimmings, shrubs, leaves, vegetative matter, excavated natural materials (e.g., dirt, sand, and rock), and demolition products (e.g., brick, concrete, glass, and metals).

a. The Contractor shall collect trees, tree stumps, tree trimmings, shrubs, leaves, and other vegetative matter and transport off site for proper disposal in compliance with Federal, State, and local requirements unless otherwise specified herein. The Contractor shall segregate the matter where appropriate for proper disposal. Untreated and unpainted scrap lumber may be disposed of with this debris where appropriate.

b. Excavated natural materials shall be transported from the project site for proper disposal in compliance with Federal, State, and local requirements unless otherwise specified herein.

c. Demolition products shall be transported from the project site for proper disposal in compliance with Federal, State, and local requirements unless otherwise specified herein.

3.1.6 Disposal of Contractor Generated Hazardous Wastes

Hazardous wastes are hazardous substances as defined in 40 CFR 261, or as defined by applicable State and local regulations. Hazardous waste generated by construction activities shall be removed from the work area and be disposed of in compliance with Federal, State, and local requirements. The Contractor shall segregate hazardous waste from other materials and wastes, and shall protect it from the weather by placing it in a safe covered location; precautionary measures against accidental spillage such as berming or other appropriate measures shall be taken. Hazardous waste shall be removed from the project site within 60 days. Hazardous waste shall not be dumped onto the ground, into storm sewers or open water courses, or into the sanitary sewer system.

3.1.7 Fuels and Lubricants

Fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spills and evaporation. Lubricants and waste oil to be discarded shall be stored in marked corrosion resistant containers and recycled or disposed of in accordance with Federal, State, and local laws and regulations.

3.1.8 Nuclear Density Meters

The Contractor shall adhere to the requirements of ER 385-1-80 when in possession of nuclear density meters.

3.2 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

3.2.1 Discovered Historic, Archaeological, and Cultural Resources

If during construction activities, items are observed that may have historic or archaeological value (e.g., Native American human remains or associated objects are discovered), such observations shall be reported immediately to the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall prevent its employees from trespassing on, removing, or otherwise disturbing such resources.

3.3 PROTECTION OF WATER RESOURCES

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters.

3.3.1 Wastewater

Should these specifications include concrete construction activities, wastewater directly derived from those activities shall not be discharged before being treated to remove pollutants.

3.4 PROTECTION OF FISH AND WILDLIFE RESOURCES

The Contractor shall keep construction activities under surveillance, management and control to minimize interference with, disturbance to, and damage of, fish and wildlife.

3.5 PROTECTION OF AIR RESOURCES

Special management techniques as set out below shall be implemented to control air pollution by the construction activities. These techniques supplement the requirements of Federal, State, and local laws and regulations; and the safety requirements under this Contract. If any of the following techniques conflict with the requirements of Federal, State, or local laws or regulations, or safety requirements under this contract, then those requirements shall be followed in lieu of the following.

3.5.1 Particulates

Airborne particulates, including dust particles, from construction activities and processing and preparation of materials shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. The Contractor shall maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, disposal sites, and all other work areas free from airborne dust which would cause a hazard or nuisance.

3.5.2 Other Air Pollutants

3.5.2.1 Hydrocarbons and Carbon Monoxide

Hydrocarbons and carbon monoxide emissions from equipment shall be controlled to Federal and State allowable limits at all times.

3.5.2.2 Odors

Odors shall be controlled at all times for all construction activities, processing and preparation of materials.

3.6 INSPECTION

If the Contracting Officer notifies the Contractor in writing of any observed noncompliance with contract requirements or Federal, State, or local laws, regulations, or permits, the Contractor shall inform the Contracting Officer of proposed corrective action and take such action to correct the noncompliance. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action is taken. No time extensions will be granted or costs or damages allowed to the Contractor for any such suspension.

3.7 MAINTENANCE OF POLLUTION CONTROL FACILITIES

The Contractor shall maintain all constructed pollution control facilities and portable pollution control devices for the duration of the Contract or for the length of time construction activities create the particular pollutant.

3.8 TRAINING OF CONTRACTOR PERSONNEL

Contractor personnel shall be trained in environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel monthly. The training and meeting agenda shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, installation and care of facilities (vegetative covers, etc.), and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control. Anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants, shall also be discussed. Other items to be discussed shall include recognition and protection of archaeological sites and artifacts.

3.9 EROSION CONTROL

3.9.1 Unprotected Erodible Soils

Earthwork brought to final grade shall be finished as indicated. Side slopes and back slopes shall be protected as soon as practicable upon completion of rough grading. All earthwork shall be planned and conducted to minimize the duration of exposure of unprotected soils. Except in cases where the constructed feature obscures borrow areas, quarries, and waste material areas, these areas shall not initially be totally cleared. Clearing of such areas shall progress in reasonably sized increments as needed to use the developed areas as approved by the Contracting Officer.

3.9.2 Disturbed Areas

The Contractor shall effectively prevent erosion and control sedimentation through approved methods including, but not limited to, the following:

- a. Retardation and Control of Runoff. Runoff from the construction site or from storms shall be controlled, retarded, and diverted to protected drainage courses by means of diversion ditches, benches, berms, and by any measures required by area wide plans under the Clean Water Act.
- b. Erosion and Sedimentation Control Devices. The Contractor shall construct or install temporary and permanent erosion and sedimentation control features as indicated in the Contractor Environmental Protection Plan or as indicated on the drawings. Berms, dikes, drains, grassing, and mulching shall be maintained until permanent drainage and erosion control facilities are completed and operative.

-- End of Section --

SECTION 01 13 12
QUALITY CONTROL SYSTEM (QCS)

PART 1 GENERAL

1.1 CONTRACT ADMINISTRATION

The Government will use the Resident Management System for Windows (RMS) to assist in its monitoring and administration of this contract. The Contractor must use the Government-furnished Construction Contractor Module of RMS, referred to as QCS, to record, maintain, and submit various information throughout the contract period. The Contractor module, user manuals, updates, and training information can be downloaded from the RMS web site. This joint Government-Contractor use of RMS and QCS will facilitate electronic exchange of information and overall management of the contract. QCS provides the means for the Contractor to input, track, and electronically share information with the Government in the following areas:

- Administration
- Finances
- Quality Control
- Submittal Monitoring
- Scheduling
- Import/Export of Data

1.1.1 Correspondence and Electronic Communications

For ease and speed of communications, both Government and Contractor will, to the maximum extent feasible, exchange correspondence and other documents in electronic format. Correspondence, pay requests and other documents comprising the official contract record will also be provided in paper format, with signatures and dates where necessary. Paper documents will govern, in the event of discrepancy with the electronic version.

1.1.2 Other Factors

Particular attention is directed to Contract Clause entitled, "Schedules for Construction Contracts"; Contract Clause entitled, "Payments"; SECTION 01 13 20 - PROJECT SCHEDULE; SECTION 01 33 00 - SUBMITTAL PROCEDURES; and SECTION 01 14 40 -CONTRACTOR QUALITY CONTROL, which have a direct relationship to the reporting to be accomplished through QCS. Also, there is no separate payment for establishing and maintaining the QCS database; all costs associated therewith will be included in the contract pricing for the work.

1.2 QCS SOFTWARE

QCS is a Windows-based program that can be run on a stand-alone personal computer or on a network. The Government will make available the QCS software to the Contractor after award of the construction contract. Prior to the Pre-Construction Conference, the Contractor will be responsible to download, install and use the latest version of the QCS software from the Government's RMS Internet Website. Upon specific justification and request by the Contractor, the Government can provide QCS on CD/DVD. Any program updates of QCS will be made available to the Contractor via the Government RMS Website as they become available.

1.3 SYSTEM REQUIREMENTS

The following is the minimum system configuration that the Contractor must have to run QCS:

Hardware

IBM-compatible PC with 1000 MHz Pentium or higher processor
256+ MB RAM for workstation / 512+ MB RAM for server
1 GB hard drive disk space for sole use by the QCS system
Compact Disk (CD) Reader 8x speed or higher
SVGA or higher resolution monitor (1024x768, 256 colors)
Mouse or other pointing device
Windows compatible printer. (Laser printer must have 4 MB+ of RAM)
Connection to the Internet, minimum 56k BPS

Software

MS Windows 7 or higher
QAS-Word Processing software: MS Word 2007 or newer
Latest version of: Netscape Navigator, Microsoft Internet Explorer, or other browser that supports HTML 4.0 or higher
Electronic mail (E-mail) MAPI compatible
Virus protection software that is regularly upgraded with all issued manufacturer's updates

1.4 RELATED INFORMATION

1.4.1 QCS User Guide

After contract award, download instructions for the installation and use of QCS from the Government RMS Internet Website. In case of justifiable difficulties, the Government will provide the Contractor with a CD/DVD containing these instructions.

1.4.2 Contractor Quality Control(CQC) Training

The use of QCS will be discussed with the Contractor's QC System Manager during the mandatory CQC Training class.

1.5 CONTRACT DATABASE

Prior to the pre-construction conference, the Government will provide the Contractor with basic contract award data to use for QCS. The Government

will provide data updates to the Contractor as needed, generally by using the Government's SFTP repository built into QCS import/export function. These updates will generally consist of submittal reviews, correspondence status, QA comments, and other administrative and QA data.

1.6 DATABASE MAINTENANCE

Establish, maintain, and update data in the QCS database throughout the duration of the contract at the Contractor's site office. Submit data updates to the Government (e.g., daily reports, submittals, RFI's, schedule updates, payment requests, etc.) using the Government's SFTP repository built into QCS export function. If permitted by the Contracting Officer, e-mail or CD/DVD may be used instead of E-mail (see Paragraph DATA SUBMISSION VIA CD/DVD). The QCS database typically includes current data on the following items:

1.6.1 Administration

1.6.1.1 Contractor Information

Contain within the database the Contractor's name, address, telephone numbers, management staff, and other required items. Within 14 calendar days of receipt of QCS software from the Government, deliver Contractor administrative data in electronic format.

1.6.1.2 Subcontractor Information

Contain within the database the name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor must be listed separately for each trade to be performed. Assign each subcontractor/trade a unique Responsibility Code, provided in QCS. Within 14 calendar days of receipt of QCS software from the Government, deliver subcontractor administrative data in electronic format.

1.6.1.3 Correspondence

Identify all Contractor correspondence to the Government with a serial number. Prefix correspondence initiated by the Contractor's site office with "S". Prefix letters initiated by the Contractor's home (main) office with "H". Letters must be numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C".

1.6.1.4 Equipment

Contain within the Contractor's QCS database a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

1.6.1.5 Management Reporting

QCS includes a number of reports that Contractor management can use to track the status of the project. The value of these reports is reflective of the quality of the data input, and is maintained in the various sections of QCS. Among these reports are: Progress Payment Request worksheet, QA/QC comments, Submittal Register Status, Three-Phase Inspection checklists.

1.6.1.6 Request For Information (RFI)

Exchange all Requests For Information (RFI) using the Built-in RFI generator and tracker in QCS.

1.6.2 Finances

1.6.2.1 Pay Activity Data

Include within the QCS database a list of pay activities that the Contractor must develop in conjunction with the construction schedule. The sum of all pay activities must be equal to the total contract amount, including modifications. Group pay activities Contract Line Item Number (CLIN); the sum of the activities must equal the amount of each CLIN. The total of all CLINs equals the Contract Amount.

1.6.2.2 Payment Requests

Prepare all progress payment requests using QCS. Complete the payment request worksheet, prompt payment certification, and payment invoice in QCS. Update the work completed under the contract, measured as percent or as specific quantities, at least monthly. After the update, generate a payment request report using QCS. Submit the payment request, prompt payment certification, and payment invoice with supporting data using the Government's SFTP repository built into QCS export function. If permitted by the Contracting Officer, e-mail or a CD/DVD may be used. A signed paper copy of the approved payment request is also required, which will govern in the event of discrepancy with the electronic version.

1.6.3 Quality Control (QC)

QCS provides a means to track implementation of the 3-phase QC Control System, prepare daily reports, identify and track deficiencies, document progress of work, and support other Contractor QC requirements. Maintain this data on a daily basis. Entered data will automatically output to the QCS generated daily report. Provide the Government a Contractor Quality Control (CQC) Plan within the time required in SECTION 01 14 40 - CONTRACTOR QUALITY CONTROL. Within seven calendar days of Government acceptance, submit a QCS update reflecting the information contained in the accepted CQC Plan: schedule, pay activities, features of work, submittal register, QC requirements, and equipment list.

1.6.3.1 Daily Contractor Quality Control (CQC) Reports

QCS includes the means to produce the Daily CQC Report. The Contractor may use other formats to record basic QC data. However, the Daily CQC Report generated by QCS must be the Contractor's official report. Summarize data from any supplemental reports by the Contractor and consolidate onto the QCS-generated Daily CQC Report. Submit daily CQC Reports as required by SECTION 01 14 40 - CONTRACTOR QUALITY CONTROL. Electronically submit reports to the Government within 24 hours after the date covered by the report. Also provide the Government a signed, printed copy of the daily CQC report.

1.6.3.2 Deficiency Tracking

Use QCS to track deficiencies. Deficiencies identified by the Contractor will be numerically tracked using QC punch list items. Maintain a current log of its QC punch list items in the QCS database. The Government will log the deficiencies it has identified using its QA punch list items. The Government's QA punch list items will be included in its export file to the Contractor. Regularly update the correction status of both QC and QA punch list items.

1.6.3.3 QC Requirements

Develop and maintain a complete list of QC testing and required structural and life safety special inspections required by the International Code Council (ICC), transferred and installed property, and user training requirements in QCS. Update all data on these QC requirements as work progresses, and promptly provide this information to the Government via QCS.

1.6.3.4 Three-Phase Control Meetings

Maintain scheduled and actual dates and times of preparatory and initial control meetings in QCS.

1.6.3.5 Labor and Equipment Hours

Log labor and equipment exposure hours on a daily basis. This data will be rolled up into a monthly exposure report.

1.6.3.6 Accident/Safety Reporting

The Government will issue safety comments, directions, or guidance whenever safety deficiencies are observed. The Government's safety comments will be included in its export file to the Contractor. Regularly update the correction status of the safety comments. In addition, utilize QCS to advise the Government of any accidents occurring on the jobsite. This brief supplemental entry is not to be considered as a substitute for completion of mandatory reports, e.g., ENG Form 3394 and OSHA Form 300.

1.6.3.7 Features of Work

Include a complete list of the features of work in the QCS database. A feature of work may be associated with multiple pay activities. However, each pay activity (see subparagraph "Pay Activity Data" of paragraph "Finances") will only be linked to a single feature of work.

1.6.3.8 Hazard Analysis

Use QCS to develop a hazard analysis for each feature of work included in the CQC Plan. Address any hazards, or potential hazards, that may be associated with the work.

1.6.4 Submittal Management

The Government will provide the initial submittal register in electronic format. Thereafter, maintain a complete list of all submittals, including completion of all data columns. Dates on which submittals are received and

returned by the Government will be included in its export file to the Contractor. Use QCS to track and transmit all submittals. ENG Form 4025R, submittal transmittal form, and the submittal register update must be produced using QCS. QCS and RMS will be used to update, store and exchange submittal registers and transmittals, but will not be used for storage of actual submittals.

1.6.5 Schedule

Develop a construction schedule consisting of pay activities, in accordance with SECTION 01 13 20 - PROJECT SCHEDULE. Input and maintain in the QCS database this schedule either manually or by using the Standard Data Exchange Format (SDEF) (see SECTION 01 13 20 - PROJECT SCHEDULE). Include with each pay request the updated schedule.

1.6.6 Import/Export of Data

QCS includes the ability to export Contractor data to the Government and to import submittal register and other Government-provided data from RMS, and schedule data using SDEF.

1.7 IMPLEMENTATION

Contractor use of QCS as described in the preceding paragraphs is mandatory. Ensure that sufficient resources are available to maintain its QCS database, and to provide the Government with regular database updates. QCS shall be an integral part of the Contractor's management of quality control.

1.8 DATA SUBMISSION VIA CD/DVD

The Government-preferred method for Contractor's submission of QCS data is by using the Government's SFTP repository built into QCS export function. Other data should be submitted using E-mail with file attachment(s). For locations where this is not feasible, the Contracting Officer may permit use of CD/DVD for data transfer. Export data onto CDs using the QCS built-in export function. If used, submit CD/DVDs in accordance with the following:

1.8.1 File Medium

Submit in English required data on CD/DVD conforming to industry standards used in the United States.

1.8.2 CD/DVD Labels

Affix a permanent exterior label to each CD/DVD submitted. Indicate on the label in English, the QCS file name, full contract number, contract name, project location, data date, name and telephone number of person responsible for the data.

1.8.3 File Names

The files will be automatically named by the QCS software. The naming convention established by the QCS software must not be altered.

1.9 MONTHLY SCHEDULE UPDATE

Update the QCS database each workday. At least monthly, generate and submit an export file to the Government with schedule update and progress payment request. As required in Contract Clause entitled, "Payments", at least one week prior to submittal, meet with the Government representative to review the planned progress payment data submission for errors and omissions.

Make all required corrections prior to Government acceptance of the export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will be returned. The Government will not process progress payments until an acceptable QCS export file is received.

1.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, will be deemed sufficient for the purpose of notification.

PART 2 PRODUCTS (NOT APPLICABLE.)

PART 3 EXECUTION (NOT APPLICABLE.)

-- End of Section --

SECTION 01 13 20
PROJECT SCHEDULE

PART 1 GENERAL

1.1 QUALIFICATIONS

The Contractor shall designate an authorized representative who shall be responsible for the preparation of all required project schedule reports.

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Project Schedule; G

The project schedule shall be submitted to the Contracting Officer within 10 days of Notice to Proceed. The schedule shall contain sufficient detail to show the order in which the Contractor proposes to perform the work and shall comply to the requirements specified in this section.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Pursuant to the Contract Clause, SCHEDULE FOR CONSTRUCTION CONTRACTS, a Project Schedule as described below shall be prepared. The scheduling of construction shall be the responsibility of the Contractor. Contractor management personnel shall actively participate in its development. Subcontractors and suppliers working on the project shall also contribute in developing and maintaining an accurate Project Schedule. The approved Project Schedule shall be used to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis of all progress payments.

3.2 BASIS FOR PAYMENT

The schedule shall be the basis for measuring Contractor progress. Lack of an approved schedule or scheduling personnel will result in an inability of the Contracting Officer to evaluate the Contractor's progress for the purposes of payment. Failure of the Contractor to provide all information, as specified below, shall result in the disapproval of the entire Project Schedule submission and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes. In the case where Project Schedule revisions have been directed by the Contracting Officer, and those

revisions have not been included in the Project Schedule, the Contracting Officer may hold retainage up to the maximum allowed by contract, each payment period, until revisions to the Project Schedule have been made.

3.3 PROJECT SCHEDULE

The project schedule shall be submitted to the Contracting Officer within 5 days of Notice to Proceed. The schedule shall contain sufficient detail to show the order in which the Contractor proposes to perform the work and shall contain the following features as a minimum:

- a. A separate activity bar shall be created for each of the salient features of work (including acquiring materials, plant, equipment, mobilization, and demobilization).
- b. The start date, completion date, and scheduled percentage complete per month shall be indicated for each activity.
- c. The start date for the contract, which is the date of Notice to Proceed, any contract required interim completion dates, and the required completion date shall be indicated on the schedule and all time between said dates shall be accounted for on the schedule.
- d. The associated contract pay item (CLIN, Contract Line Item Number) shall be indicated for each activity. In addition, the dollar amount for each activity shall be indicated.
- e. A contract earnings schedule shall be included with the Project Schedule indicating the scheduled earnings per month and cumulative earnings through the duration of the contract.

3.3.1 Schedule Updates

The Contractor shall enter the actual progress on the approved progress schedule at least every 30 days and shall submit this annotated schedule to the Contracting Officer. If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval a supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

-- End of Section --

SECTION 01 14 40
CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D 3740 (2010) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

ASTM E 329 (2000; Rev. A) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable unit prices or lump sum prices contained in the Bidding Schedule.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with SECTION 01 33 00 - SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Quality Control Plan; G

The project schedule shall be submitted to the Contracting Officer within 5 days of Notice to Proceed. The schedule shall contain sufficient detail to show the order in which the Contractor proposes to perform the work and shall comply with the requirements specified in this section.

PART 2 PRODUCTS

(Not used.)

PART 3 EXECUTION

3.1 GENERAL

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause entitled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product that complies with the contract requirements. The system shall cover all construction operations, both on-site and off-site, and shall be keyed to the proposed construction sequence.

3.2 QUALITY CONTROL PLAN

3.2.1 General

The Contractor shall furnish for acceptance by the Government within 3 days after receipt of Notice of Award, the original and one copy of the Contractor Quality Control (CQC) Plan proposed for use in implementing the requirements of the Contract Clause entitled "Inspection of Construction". The plan shall identify personnel, procedures, instructions, records, and forms to be used. If the Contractor fails to submit an acceptable Quality Control Plan within the time specified herein, the Contracting Officer may refuse to allow the start of construction, or funds may be withheld from progress payments in accordance with the Contract Clause entitled "Payments under Fixed-Price Construction Contracts".

3.2.2 Content of the CQC Plan

The CQC plan shall include, as a minimum, the following to cover all construction operations, both on-site and off-site, including work by subcontractors, fabricators, suppliers, and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC system manager who shall report to the project manager or someone higher in the Contractor's organization. Project Manager in this context shall mean the individual with responsibility for the overall management of the project including quality and production.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. The name and address of the Corps of Engineers validated commercial testing laboratory to be used for quality control testing; a letter of validation from the Material Testing Center (MTC); a list of applicable ASTM procedures that the laboratory is validated to perform; and the qualifications of the field technician(s) identified for the project.
- d. A copy of the letter to the CQC System Manager signed by an authorized official of the firm, which describes the responsibilities and delegates the authorities of the CQC System Manager.
- e. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, off-site fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with SECTION 01 33 00 - SUBMITTAL PROCEDURES.

f. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Contracting Officer.)

g. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

h. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.

i. Reporting procedures, including proposed reporting formats.

j. A list of the definable features of work. A definable feature of work is a task that is separate and distinct from other tasks and has separate control requirements. It could be identified by different trades or disciplines, or it could be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a particular section. This list shall be agreed upon during the coordination meeting.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in the CQC plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

After acceptance of the QC plan, the Contractor shall notify the Contracting Officer in writing a minimum of seven calendar days prior to any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the Quality Control Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both on-site and off-site work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file.

There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.3.1 Weekly Coordination Meeting

Once construction begins the Contractor shall conduct weekly onsite coordination meetings at a mutually agreed upon time with the Government. The meeting may be conducted at a lesser interval if mutually agreed upon by the Government and Contractor. The Contractor shall prepare minutes for each meeting and provide a copy to the Government prior to the next meeting for review and concurrence. The minimum outline of items to be addressed at the coordination meetings shall include an update and a review of progress since last week, project schedule, work schedule for the week ahead, submittals, modifications and potential modifications, QC/QA issues, RFI's, environmental protection, safety, and any other issues determined appropriate.

3.4 QUALITY CONTROL ORGANIZATION

The Contractor shall identify an individual within its organization at the worksite who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. This CQC System Manager shall be on the site at all times during construction and shall be employed by the Contractor. This Contractor Quality Control System Manager shall be Corps' certified and shall be approved by the Contracting Officer. To become "certified" the manager must have completed the course entitled "Construction Quality Management for Contractors". This course is offered quarterly at the St. Louis Corps of Engineers District Office. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. Period of absence may not exceed one (1) week at any one time, and not more than ten (10) workdays during a calendar year. The requirements for the alternate will be the same as for the designated CQC Manager.

3.4.1 CQC Organizational Staffing

The Contractor shall provide a CQC staff, which shall be at the worksite at all times during progress, with complete authority to take any action necessary to ensure compliance with the contract.

3.4.1.1 CQC Staff

Following are the minimum requirements for the CQC staff. These minimum requirements will not necessarily assure an adequate staff to meet the CQC requirements at all times during construction. The actual strength of the CQC staff may vary during any specific work period to cover the needs of the work period. When necessary for a proper CQC organization, the Contractor shall add additional staff at no cost to the Government. This listing of minimum staff in no way relieves the Contractor of meeting the basic requirements of quality construction in accordance with contract requirements. All CQC staff members shall be certified in accordance with paragraph QUALITY CONTROL ORGANIZATION, and shall be subject to acceptance by the Contracting Officer.

3.4.1.2 CQC System Manager

The CQC System Manager and staff shall be assigned no scheduling or other duties.

3.4.2 Organizational Changes

The Contractor shall obtain Contracting Officer's acceptance before replacing any member of the CQC staff. Requests shall include the names, qualifications, duties, and responsibilities of each proposed replacement.

3.5 SUBMITTALS

Submittals shall be made as specified in SECTION 01 33 00 - SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals are in compliance with the contract requirements.

3.6 CONTROL

The controls shall include at least three phases of control to be conducted by the CQC System Manager for all definable features of work, as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work and shall include:

- a. A review of each paragraph of applicable specifications.
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. A check to assure that provisions have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for constructing the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that phase of work.
- i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. The Government shall be notified at least 24 hours in advance of beginning any of the required action of the preparatory phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a. A check of preliminary work to ensure that it is in compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verification of full contract compliance. Verify required control inspection and testing.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Comparison with sample panels is appropriate.
- d. Resolve all differences.
- e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
- f. The Government shall be notified at least 24 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.
- g. The initial phase should be repeated for each new crew to work on-site, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure continuing compliance with contract requirements, including control testing, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon or conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

As determined by the Government, additional preparatory and initial phases may be conducted on the same definable features of work if the quality of

on-going work is unacceptable, if there are changes in the applicable CQC staff, on-site production supervision or work crew, if work on a definable feature is resumed after a substantial period of inactivity, or if other problems develop.

3.7 TESTS

3.7.1 Materials Testing and Inspection

Testing shall be the responsibility of the Contractor and shall be performed at no additional cost to the Government. All testing shall be performed by a Corps of Engineers validated commercial testing laboratory. Both the field and permanent laboratory shall be validated. A list of current validated testing laboratories can be viewed at www.wes.army.mil/SL/MTC/mtc.htm or you may contact Mr. Steve O'Connor, St. Louis District, Geotechnical Branch, at Telephone 314-331-8445 for laboratory verifications. If the Contractor elects to establish testing facilities, work requiring testing will not be permitted until the Contractor's facilities have been validated by the Materials Testing Center. The Contractor shall ensure that the Materials Testing Center is reimbursed for all costs regarding validation of testing laboratories pertaining to this contract.

3.7.2 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product that conforms to contract requirements. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a testing laboratory on or off site that is validated by the Material Testing Center (MTC) for the Corps of Engineers. The Contractor shall perform the following activities and record and provide the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an off-site or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

3.7.3 Testing Laboratories

3.7.3.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329, and shall be validated by the Corps of Engineers MTC.

3.7.3.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed any charges incurred to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.4 On-Site Laboratory

If an onsite CQC laboratory is established, the Contractor shall submit the request for validation to the District POC in a timely manner and emphasize the critical need. After the request to the MTC is submitted, the Contractor should anticipate a six-week turn around and reflect the turn-around time in its scheduling. The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.5 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials shall be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Corps of Engineers Division Laboratory, f.o.b., at the following address:

For delivery by mail:

US Army Engineer Research
and Development Center
P.O. Box 631
Vicksburg, MS 39181-0631

For other deliveries:

US Army Engineer Research
and Development Center
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Coordination for each specific test, exact delivery location, and dates shall be made through the Area Office.

3.8 COMPLETION INSPECTION

At the completion of all work or any increment thereof established by a completion time stated in the Contract Clause entitled "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the CQC System Manager shall conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved drawings and specifications. Such a list of deficiencies shall be included in the CQC documentation, as required by paragraph DOCUMENTATION

below, and shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected and so notify the Government. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time stated for completion of the entire work or any particular increment thereof if the project is divided into increments by separate completion dates.

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on the form as produced through the Resident Management System (RMS) QC module that includes, as a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase should be identified (Preparatory, Initial, Follow-up). List deficiencies noted along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- f. Submittals reviewed, with contract reference, by whom, and action taken.
- g. Off-site surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given/received and conflicts in plans and/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 24 hours after the date(s) covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for

every seven days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

3.11 IMPLEMENTATION OF GOVERNMENT RESIDENT MANAGEMENT SYSTEM (RMS) FOR CONTRACTOR QUALITY CONTROL OF CONTRACT.

3.11.1 General

The Government will use the Resident Management System (RMS) to assist in its monitoring and administration of this contract. The Contractor shall use the Government-furnished Contractor Quality Control (CQC) Programming Module to plan, schedule, and manage work during construction period of the project. This joint Government-Contractor use of RMS will facilitate electronic exchange of information and overall management of the contract. The CQC module will provide the Contractor with a means to input, track, and electronically share information with the Government in administration, finances, Quality Control, submittal monitoring, scheduling, and import/export of data.

3.11.2 RMS Windows Version

The Contractor shall use the Government-furnished Construction Contractor Module of RMS-Windows, referred to as RMS-QC (QC for Quality Control), to record, maintain, and submit information throughout the contract period. This can be downloaded at <http://24.221.12.75/qcs/04QCSUpdates.htm> and/or <http://24.221.12.75/qcs/default.html>. Minimum hardware requirements for RMS-QC include an IBM-compatible personal computer with 500 mhz Pentium processor, 128 plus MB RAM, 1GB minimum hard drive space, 3.5 inch high-density floppy drive, compact disk reader 8x speed or higher, color monitor, laser printer compatible with HP LaserJet III with minimum 4 MB installed memory, and connection to the Internet (minimum 56k BPS). Minimum software requirements include Electronic mail (E-mail) MAPI compatible; MS Windows 7 or newer; word processing software compatible with MS Word 2007 or newer, Internet browser that supports HTML 4.0 or higher; and virus protection software that is regularly upgraded with all issued manufacturer's updates throughout the life of the contract.

3.11.3 Quality Assurance Comments

During the course of the contract, the Contractor will receive various Quality Assurance comments from the Government that will reflect corrections needed to Contractor activities or reflect outstanding or future items needing the attention of the Contractor. The Contractor shall acknowledge receipt of these comments by specific number reference on its Daily CQC Report, and shall also reflect on its Daily CQC Report when these items are specifically completed or corrected to permit Government verification.

3.11.4 Contractor's Scheduling System

The Contractor's schedule system shall include, as specific and separate activities, all Preparatory Phase Meetings (inspections), all O&M Manuals and all Test Plans of Electrical and Mechanical Equipment or Systems that require validation testing or instructions to Government representatives.

-- End of Section --

SECTION 01 15 00
TEMPORARY CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

As soon as practicable, but not later than 15 days after the date established for commencement of work, the Contractor shall provide the temporary facilities specified herein. The temporary facilities shall be maintained by the Contractor during the life of the contract and upon completion and acceptance of the work shall be removed from the site of the work.

1.1.1 No Separate Payment

Payment for materials and equipment furnished under this section will not be paid for separately, and all costs in connection therewith shall be included in other items for which payment is provided.

1.2 APPLICABLE PUBLICATIONS

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2008; Change 1-2010; Change 3-2010; Errata 1-2010) Safety and Health Requirements Manual

U.S. ARMY CORPS OF ENGINEERS (USACE)

EP 310.1-6A (2006) Sign Standards Manual, VOL 1

PART 2 PRODUCTS

2.1 GOVERNMENT OFFICE

The Contractor shall provide office means for Government personnel within the Contractor's furnished office trailer. Access to the trailer, desk and chair, and a meeting area, at a minimum, shall be provided for Government use.

2.2 TEMPORARY PROJECT AND SAFETY SIGNS

The Contractor shall furnish and erect one temporary project sign and one safety sign at the project site at the location designated by the Contracting Officer. The signs shall conform to the requirements of U.S. Army Corps of Engineers Sign Standard Manual EP 310.1-6A, Section 16 entitled, "Construction Project Signs", Pages 16.1 through 16.4, copies of which are enclosed at the end of this section. If sign is to be placed on a floating plant, it may be half sized. Information will be furnished by the Contracting Officer as to the location and wording of the signs.

2.3 TEMPORARY PROJECT SAFETY FENCING

The Contractor shall furnish and erect temporary project safety fencing as required by the Safety and Health Requirements Manual EM 385-1-1. The safety fencing shall be a high visibility orange color, HDPE open-weave pattern, a minimum of 42 inches high, supported and tightly secured to steel posts located on maximum 10 foot centers, constructed at the approved location. If required by the Safety Manual, fencing shall meet EPA's recommended recovered materials content levels of 60-100% for Postconsumer Content and 90-100% Total Recovered Materials Content.

2.4 TEMPORARY PUBLIC ACCESS BARRIERS

The Contractor shall furnish and erect access gates and barriers as necessary to control public access at all times during construction to and through the construction site. Gate locations shall be determined by Contracting Officer's Representative.

PART 3 EXECUTION

3.1 HAUL ROADS

When haul roads are required, the Contractor shall construct them in accordance with the requirements of the Safety and Health Requirements Manual EM 385-1-1.

3.2 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. All paved and stone surfaced roadways shall be kept clean of dirt and mud tracked by the Contractor's equipment.

3.3 RESTORATION OF SITE

Upon completion of the project, areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition at no additional cost to the Government. This includes, but is not limited to, areas used for haul roads and site access, temporary construction storage, and other areas within the construction limits.

-- End of Section --

The use of signs to identify Corps managed or supervised design, construction, and rehabilitation projects - both for military and civil works - is an important part of efforts to keep the public informed of Corps work. For this purpose, a construction project sign package has been adopted. This package consists of two signs: one for project identification and the other to show on-the-job safety performance of the contractor.

These two signs are to be displayed side by side and mounted for reading by passing viewers. Exact placement location will be designated by the contracting officer's representative.

The panel sizes and graphic formats have been standardized for visual consistency throughout all Corps operations.

Panels are fabricated using HDO plywood or aluminum with dimensional lumber uprights and bracing. The sign faces are nonreflective vinyl.

All legends are to be die-cut or computer-cut in the sizes and typefaces specified and applied to the white panel background following the graphic formats shown on pages 16-2 and 16-3. The Communication Red panel on the left side of the construction project sign with Corps Signature (reverse version) is screen-printed onto the white background.

A display of these two signs is shown on the following two pages. Mounting and fabrication details are provided on page 16-4.

Special applications or situations not covered in these guidelines should be referred to the district Sign Program Manager.

Below are two samples of the Construction Project Identification sign showing how this panel is adaptable for use to identify either military (top) or civil works projects (bottom). The graphic format for this 4'x 6' sign panel follows the legend guidelines and layout as specified below. The large 4'x 4' section of the panel on the right is to be white with black legend. The 2'x 4' section of the sign on the left

with the full Corps Signature (reverse version) is to be screen-printed Communication Red on the white background. The designation of a sponsor in the area indicated is optional with Military or Civil Works construction signs. Signs may list one sponsoring entity. If agreement on a sponsor designation cannot be achieved, the area should be left blank.

This sign is to be placed with the Safety Performance sign shown on the following page. Mounting and fabrication details are provided on page 16-4.

Special applications or situations not covered in these guidelines should be referred to the district Sign Program Manager.

Legend Group 1: One- to two-line description of Corps relationship to project.

Color: White
Typeface: 1.25" Helvetica Regular
Maximum line length: 19"

Legend Group 2: Division or District Name (optional). Placed below 10.5" reverse Signature (6" Castle).

Color: White
Typeface: 1.25" Helvetica Regular

Legend Group 2a: One- to three-line identification of Military or Civil Works sponsor (optional). Place below Corps Signature to cross-align with Group 5a-b.

Color: White
Typeface: 1.25" Helvetica Regular
Maximum line length: 19"

Legend Group 3: One- to three-line project title legend describes the work being done under this contract.

Color: Black
Typeface: 3" Helvetica Bold
Maximum line length: 42"

Legend Group 4: One- to two-line identification of project or facility (civil works) or name of sponsoring department (military).

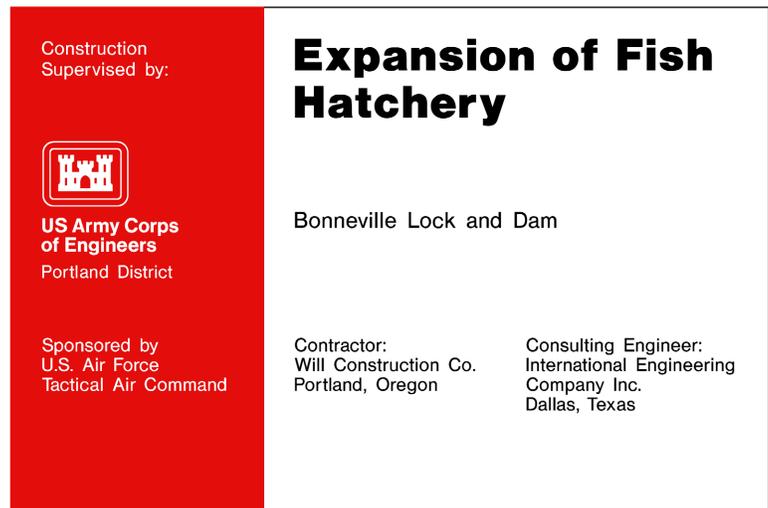
Color: Black
Typeface: 1.5" Helvetica Regular
Maximum line length: 42"

Cross-align the first line of Legend Group 4 with the first line of the Corps Signature (US Army Corps) as shown.

Legend Groups 5a-b: One- to five-line identification of prime contractors including: type (architect, general contractor, etc.), corporate or firm name, city, state. Use of Legend Group 5 is optional.

Color: Black
Typeface: 1.25" Helvetica Regular
Maximum line length: 21"

All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter- and word-spacing to follow Corps standards as specified in Appendix D.



Sign Type	Legend Size (A)	Panel Size	Post Size	Specification Code	Mounting Height	Color Bkg/Lgd
CID-01	various	4'x6'	4"x4"	HDO-3	48"	WH-RD/BK

Each contractor's safety record is to be posted on Corps managed or supervised construction projects and mounted with the Construction Project Identification sign specified on page 16-2.

The graphic format, color, size and typeface used on the sign are to be reproduced exactly as specified below. The

title with First Aid logo in the top section of the sign, and the performance record captions are standard for all signs of this type. Legend groups 2 and 3 below identify the project and the contractor and are to be placed on the sign as shown.

Safety record numbers are mounted on individual metal plates and are screw-

mounted to the background to allow for daily revisions to posted safety performance record.

Special applications or situations not covered in these guidelines should be referred to the district Sign Program Manager.

Legend Group 1: Standard two-line title "Safety is a Job Requirement" with 8" (outside diameter) Safety Green first aid logo.
Color: To match Pantone system 347
Typeface: 3" Helvetica Bold
Color: Black

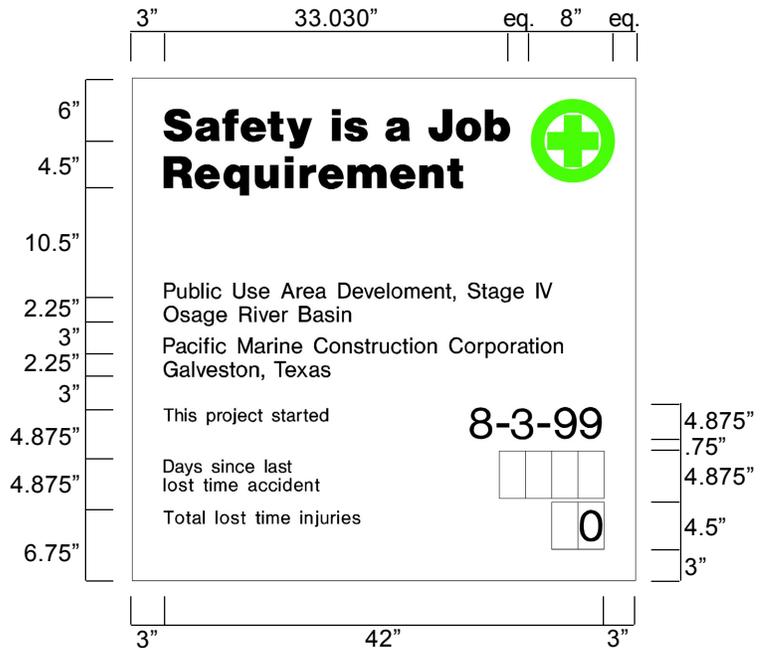
Legend Group 2: One- to two-line project title legend describes the work being done under this contract and name of host project.
Color: Black
Typeface: 1.5" Helvetica Regular
Maximum line length: 42"

Legend Group 3: One- to two-line identification: name of prime contractor and city, state address. Color: Black
Typeface: 1.5" Helvetica Regular
Maximum line length: 42"

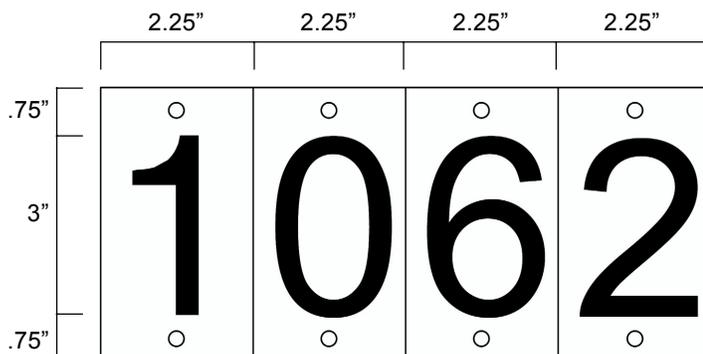
Legend Group 4: Standard safety record captions as shown.
Color: Black
Typeface: 1.25" Helvetica Regular

Replaceable numbers are to be mounted on white .060 aluminum plates and screw-mounted to background.
Color: Black
Typeface: 3" Helvetica Regular
Plate size: 2.5" x 4.5"

All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter- and word-spacing to follow Corps standards as specified in Appendix D.



Sign Type	Legend Size (A)	Panel Size	Post Size	Specification Code	Mounting Height	Color Bkg/Lgd
CID-02	various	4'x4'	4"x4"	HDO-3	48"	WH/BK-SG



All Construction Project Identification signs and Safety Performance signs are to be fabricated and installed as described below. The signs are to be erected at a location designated by the contracting officer representative and shall conform to the size, format, and typographic standards shown on pages 16-2 and 16-3. Detailed specifications for HDO plywood panel preparation are provided in Appendix B.

Shown below the mounting diagram is a panel layout grid with spaces provided for project information. Photocopy this page and use as a worksheet when preparing sign legend orders.

For additional information on the proper method to prepare sign panel graphics, contact the district Sign Program Manager.

The sign panels are to be fabricated from .75" High Density Overlay Plywood. Panel preparation to follow HDO specifications provided in Appendix B.

Sign graphics to be prepared on a white nonreflective vinyl film with positionable adhesive backing.

All graphics except for the Communication Red background with Corps Signature on the project sign are to be die-cut or computer-cut nonreflective vinyl, prespaced legends prepared in the sizes and typefaces specified and applied to the background panel following the graphic formats shown on pages 16-2 and 16-3.

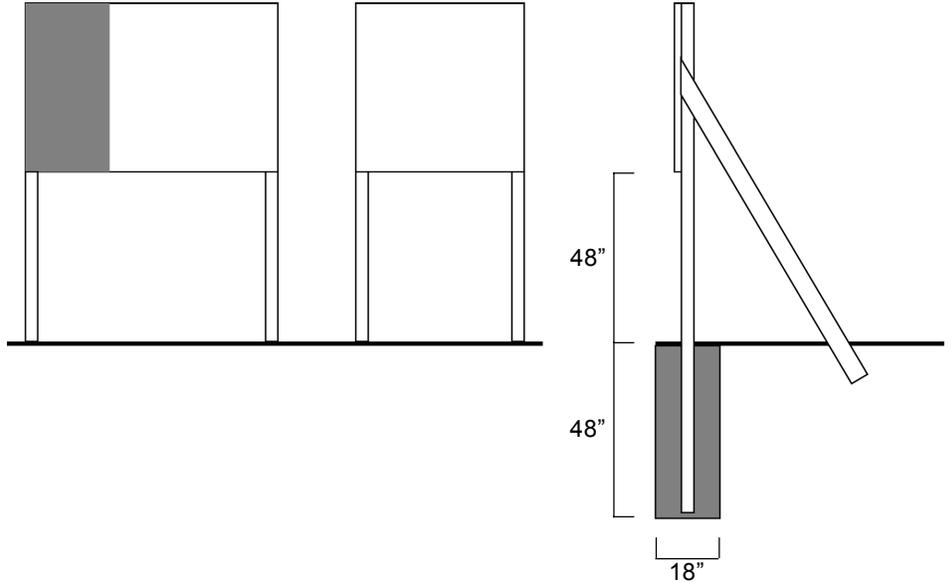
The 2'x 4' Communication Red panel (to match Pantone system 032) with full Corps Signature (reverse version) is to be screen-printed on the white background. Identification of the district or division may be applied under the signature with white cut vinyl letters prepared to Corps standards.

Drill and insert six (6) .375" T-nuts from the front face of the HDO sign panel. Position holes as shown. Flange of T-nut to be flush with sign face.

Apply graphic panel to prepared HDO plywood panel following manufacturers' instructions.

Sign uprights to be structural grade 4" x 4" treated Douglas Fir or Southern Yellow Pine, No.1 or better. Post to be 12' long. Drill six (6) .375" mounting holes in uprights to align with T-nuts in sign panel. Countersink (.5") back of hole to accept socket head cap screw (4" x .375").

Assemble sign panel and uprights. Imbed assembled sign panel and uprights in 4' hole. Local soil conditions and/or wind loading may require bolting additional 2" x 4" struts on inside face of uprights to reinforce installation as shown.



Construction Project Identification Sign
Legend Group 1: Corps Relationship

1. _____
2. _____

Legend Group 2: Division/District Name

1. _____
2. _____

Legend Group 2a: Military/Civil Works Sponsor

1. _____
2. _____

Legend Group 3: Project Title

1. _____
2. _____
3. _____

Legend Group 4: Facility Name

1. _____
2. _____

Legend Group 5: Contractor/A&E

1. _____
2. _____
3. _____
4. _____
5. _____

Legend Group 5b: Contractor/A&E

1. _____
2. _____
3. _____
4. _____
5. _____

Safety Performance Sign

Legend Group 2: Project Title

1. _____
2. _____

Legend Group 3: Contractor/A&E

1. _____
2. _____

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 Submittal Descriptions (SD)

Submittal requirements are specified in individual specification sections. Submittals are identified by Submittal Description (SD) numbers and titles as follows:

Preconstruction Submittals

Submittals which are required prior to start of construction (work) or the start of the next major phase of the construction on a multi-phase contract. For example, schedules, work plans, lists of data, or lists including location, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work are considered preconstruction submittals.

1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.2.1 Government Approved (G)

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

1.2.2 For Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above. These submittals shall be filed and maintained in the Contractor's field office subject to Government spot check.

1.3 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error that may exist, as the Contractor under the CQC requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After the Contracting Officer has approved submittals, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be furnished promptly to the Contracting Officer.

1.5 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained. In addition; the Government will withhold 2% of the total bid price of the applicable item for which FIO technical submittals are not being maintained and on file at the Contractor's Field Office.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to the submission of submittals, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and each item shall be stamped, signed, and dated by the CQC representative indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

3.2 SUBMITTAL REGISTER (ENG FORM 4288-R)

At the end of this section is one set of ENG Form 4288-R listing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. The Accident Prevention Program (00 08 00), Statement of Required Insurance (00 08 00), Environmental Protection Plan

(01 11 30), Project Schedule Submission (01 13 20), and Quality Control Plan (01 14 40), shall be submitted as set forth in each applicable specification section. The Government has completed columns "d" through "r"; the Contractor shall complete columns "a" through "c" and "s" through "u" and submit the forms to the Contracting Officer for approval within 10 calendar days after Notice to Proceed. The approved submittal register will become the scheduling document and will be used to control submittals throughout the life of the contract. The submittal register and the progress schedules shall be coordinated. The time for submission, procurement, lag/lead and delivery shall be entered through the Resident Management System (RMS) QC module. After entry of that data, the ENG Form 4288-R (RMS) shall be produced from the RMS QC module.

3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. It is the Contractor's responsibility to provide the Corps with timely, accurate, and complete submittal packages. The Corps, in turn, will process, review, and provide official responses to the Contractor within 14 calendar days after physical receipt of the submittal, unless otherwise noted in the Technical Provisions. The Contractor shall incorporate the stated Government review time in the submittal register. No delay damages or time extensions will be allowed for time lost in late submittals. The Contractor's Quality Control representative shall review the listing at least every 14 days and take appropriate action to maintain an effective system. Copies of updated or corrected listing shall be submitted to the Contracting Officer at least every 14 days in the quantity specified.

3.4 TRANSMITTAL FORM (ENG FORM 4025-R)

The sample transmittal form (ENG Form 4025-R), attached to this section, shall be used for submitting Government Approved submittals in accordance with the instructions on the reverse side of the form. This form should also be used to document the Contractor Quality Control review, and approval of, For Information Only submittals prior to filing and maintaining in the field office. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item. The ENG Form 4025-R may be prepared by use of the Resident Management System (RMS) QC module.

3.5 SUBMITTAL PROCEDURE

Submittals shall be made as follows:

3.5.1 Procedures

The Contractor shall submit to the Contracting Officer for approval six copies of all shop drawings as called for under the various headings of these specifications.

3.5.2 Deviations

For submittals, which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025-R shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control its procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

3.7 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. The Contracting Officer will retain five copies of the submittal and one copy of the submittal will be returned to the Contractor.

3.8 INFORMATION ONLY SUBMITTALS

Approval of the Contracting Officer is not required on information only submittals. The Contractor shall maintain in his field office all current FIO submittals for use by CQC Manager during the course of the contract. The Government will periodically spot-check the Contractor's compliance with maintaining current and correct FIO submittals for CQC purposes. Any incorrect submittals found during the Government spot check will be immediately corrected by the CQC Manager. If the Contractor fails to keep the FIO submittals current and correct, 2% of the total bid price against the applicable bid item will be withheld. At the completion of the contract, the Contractor will submit the entire file of FIO submittals to the Government.

3.9 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR (Firm Name)
_____ Approved
_____ Approved with corrections as noted on submittal data and/or attached sheets(s).
SIGNATURE: _____
TITLE: _____
DATE: _____

-- End of Section --

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal form will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".
7. Form is self-transmittal, letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

A --	Approved as submitted.	E --	Disapproved (See attached).
B --	Approved, except as noted on drawings.	F --	Receipt acknowledged.
C --	Approved, except as noted on drawings. Refer to attached sheet resubmission required.	FX --	Receipt acknowledged, does not comply as noted with contract requirements.
D --	Will be returned by separate correspondence.	G --	Other (Specify)
10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

(Reverse of ENG Form 4025-R)

SECTION 31 21 10
STRIPPING

PART 1 GENERAL

1.1 SCOPE	31 21 10-1
1.2 QUALITY CONTROL	31 21 10-1
1.3 SUBMITTALS	31 21 10-1

PART 2 PRODUCTS (NOT APPLICABLE)	31 21 10-1
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PART 3 EXECUTION

3.1 STRIPPING	31 21 10-1
3.2 DISPOSAL OF MATERIAL	31 21 10-1

xxx

SECTION 31 21 10
STRIPPING

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 stripping the areas specified herein or indicated on the drawings, and for the removal and disposal of all stripped materials.

1.2 QUALITY CONTROL.

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

(1) Stripping. Limits, depth of stripping, percentage of area complete; type of material.

1.2.2 Reporting. A copy of these records of inspections and tests, as well as the records of corrective action taken, shall be furnished to the Government daily.

1.3 SUBMITTALS. Government approval is required for submittals with a "G" designation; submittals having no designation are for information only. The following shall be submitted in accordance with SECTION 01 33 00 - SUBMITTAL PROCEDURES.

1.3.1 Statement. If the Contractor proposes to dispose of material on private property, the Contractor shall submit written evidence to the Contracting Officer that permission has been obtained from the property owner for disposal of material on the owner's property. The written evidence shall consist of an authenticated copy of the conveyance under which the Contractor acquired the property rights and access thereto, prepared and executed in accordance with the laws of the State in which the material is to be disposed.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 STRIPPING.

3.1.1 Borrow Area Stripping. Borrow areas shall be stripped to a depth of 6 inches and material stockpiled.

3.1.2 Levee Stripping. Area shall be defined as the existing levee and within the new levee footprint that is to be constructed. Stripping shall consist of the removal of materials down to bare earth and without removing more earth than is necessary and no more than 6 inches.

3.1.3 Contractor's Work Area Stripping. In contractor's work area, materials shall be removed down to bare earth and without removing more earth than is necessary and no more than 2 inches. The area stripped within the Contractor's work area shall be no more than what is necessary for purposes of drying on-site excavated material that is to be utilized in the construction of the levee cross-section.

3.2 DISPOSAL OF MATERIAL.

3.2.1 Stripped Material. All stripped material from levee footprint shall be stockpiled separately and used for top dressing on the finished levee. All stripped material from the Contractor's work area shall be stockpiled separately and used for top dressing on the Contractor's work area. All stripped material from the borrow areas shall be stockpiled separately and used for top dressing on the borrow areas.

SECTION 31 22 10
EXCAVATION

PART 1 GENERAL

1.1	SCOPE	31 22 10-1
1.2	QUALITY CONTROL	31 22 10-1
1.3	SUBMITTALS	31 22 10-1

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1	EXCAVATION IN BORROW AREAS	31 22 10-2
3.2	BORROW AREAS	31 22 10-2
3.3	DISPOSITION OF MATERIALS	31 22 10-3
3.4	EXCAVATION IN OTHER AREAS	31 22 10-4

SECTION 31 22 10 - EXCAVATION

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

1.2 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, limits, allowable depths, drainage.
- (2) Excavation in Other Areas. Location, limits, allowable depths, and drainage. Excavation of material overlying failure scarps sufficient to expose the failure scarp.
- (3) Disposition of Materials. Suitability of materials and waste areas.
- (4) Ditches. Location, grade and cross section.
- (5) Embankment Foundations. Limits, slopes, depths, and drainage.
- (6) Quantity Surveys. Accuracy and timeliness.

A copy of these records and tests, as well as the records of corrective action taken, shall be furnished the Government daily.

1.3 SUBMITTALS. Government approval is required for all submittals with a "G" designation; submittals having no designation are for information only. The following shall be submitted in accordance with SECTION 01 33 00 SUBMITTAL PROCEDURES:

1.3.1 Statements. Excavation Plan; G. Submit complete and detailed descriptions of proposed excavation plan. This plan shall include, but not be limited to, the Contractor's proposed sequence of construction for all excavation; methods and types of equipment to be utilized for all excavation operations; quantity, type and final disposition of stockpiled materials; location and drainage of proposed stockpiles; proposed disposition of all excavated materials, including items which are anticipated to be disposed of off-site. The schedule for the exploratory excavation hole between the gravity drains shall be submitted. In addition to submittal, the contractor shall notify the Contracting Officer's Representative a minimum of 48 hours prior to commencement of exploratory excavation. Excavation plan shall be submitted to the Government not less than 30 days prior to initiating any excavation.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 EXCAVATION IN BORROW AREAS.

3.1.1 General. The rights-of-way and earth materials for constructing the work will be furnished without cost to the Contractor, at locations specified herein and/or shown on the drawings, with exact limits to be staked by the Government.

3.1.2 Equipment. 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.

3.2 BORROW AREAS.

3.2.1 Borrow areas shall conform to requirements prescribed herein and as shown on the drawings. The permissible depths in the borrow areas are indicated on the drawings, but the right is reserved in accordance with the Contract Clause entitled "Changes", to modify the permissible depths in accordance with subsurface conditions determined as work proceeds.

3.2.2 The bottom of the pits excavated under this contract shall be dressed to the extent necessary to provide a reasonably smooth surface that can readily be traversed by a 50 to 60-horsepower farm tractor pulling a rotary-type pasture mower and sloped to provide surface drainage to the low side of the pit as soon as all usable materials have been removed or the Contractor has completed its use of the pit. Abrupt changes in grade shall be avoided. Unsuitable material wasted in the borrow pits shall be placed as directed by the Contracting Officer. 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 suitable material placed and compacted in accordance with 31 22 20-3.2.

3.2.3 The borrow areas excavated under this contract and flooded from high river stages shall be drained and allowed to dry as quickly as practicable after the high river stage has passed. The Contractor, at its option, may use rights-of-way for drainage other than those furnished by the Government provided that their location and dimensions are approved by the Contracting Officer, and provided that the Contractor has submitted written evidence to the Contracting Officer that the rights-of-way from the property owners have been obtained. The written evidence shall consist of an authenticated copy of the conveyance under which the Contractor acquired the rights-of-way, prepared and executed in accordance with the laws of the State of Illinois or the State of Missouri.

3.2.4 If temporary rights are obtained by the Contractor, the period of time shall coincide with contract clause COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK, plus a reasonable time for any extension granted for completion of the work. 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 rights-of-way for drainage other

than those rights-of-way furnished by the Government. Except as required by variable right-of-way widths, abrupt changes in borrow area alignment shall be avoided. The Contractor shall remove material from borrow areas in such a manner that when excavation is complete, the borrow area ground elevation does not exceed a slope of 1 foot vertical, 200 foot horizontal in any direction.

3.2.5 The Contractor shall submit an excavation plan for approval by the Contracting Officer and shall not begin excavation until the Contracting Officer's approval has been received. The plan shall contain, as a minimum, the following:

(1) The Contractor's proposed methods for draining borrow areas excavated under this contract which may be flooded by high river stages.

(2) A statement indicating whether the Contractor proposes to use:

(a) Government-furnished rights-of-way for drainage;

(b) Contractor-furnished rights-of-way for drainage; or

(c) A combination of Government-furnished and Contractor-furnished rights-of-way for drainage.

(3) For Contractor-furnished rights-of-way for drainage, the plan shall contain all of the information required by paragraphs 3.2.1 through 3.2.5 above and the Contractor's proposals for implementing SECTION 01 11 30 - ENVIRONMENTAL PROTECTION, insofar as that applies to rights-of-way for drainage.

(4) The Contractor's proposals for making optimum use of available borrow, including the Contractor's proposed methods for smoothing the bottom of the borrow pits after having completed use of the pits.

3.3 DISPOSITION OF MATERIALS.

3.3.1 Suitable Materials. Excavated materials, including mandatory excavated material necessary to access a failure scarp, which are suitable for incorporation or reuse in the embankment or other fills shall either be placed directly therein, or stockpiled and subsequently used in the embankment.

3.3.2 Unsuitable Materials. Materials from required excavations which, as defined in SECTION 31 22 20-3.2.1.1, are unsuitable for embankment material will be ordered wasted and shall be disposed of in abandoned portions of borrow pits. The material shall be shaped so that its surface is free from abrupt changes in grade and shall be sloped to drain. Where possible, unsuitable materials in borrow areas shall not be removed. Unsuitable materials encountered in excavation required to expose a failure scarp shall be disposed of in abandoned portions of the borrow pits.

3.4 EXCAVATION IN OTHER AREAS.

3.4.1 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, and removal of unsuitable materials as defined in SECTION 31 22 20-3.2.1.1. Whenever unsuitable foundation material is encountered, the unsuitable material shall be removed to the depth directed by the Contracting Officer. Whenever suitable material is encountered, it shall be stockpiled and reused as shown on the drawings or as directed by the Contracting Officer. Care shall be exercised by the Contractor in excavating to the lines and grades shown and in removing unsuitable materials so as not to excavate below the grades specified or depth directed. Excavation below the lines and grades specified or the depth directed shall be backfilled by the Contractor at its expense. Such backfill shall be brought to grade with suitable material with each layer placed and compacted as specified in SECTION 31 22 20-3.2. Excavated materials shall be disposed of as specified in paragraph 3.3 above.

3.4.2 Excavation for Type 3 Embankment. The material in the slide areas shall be excavated to the approximate excavation lines indicated on the drawings but shall at all times be excavated beyond the failure surface. The final limits, lines, and depths of such excavation shall be as directed by the Contracting Officer. At no time shall the materials in the slide areas be excavated to a slope steeper than those indicated on the drawings. The excavations shall be made in such a manner as to provide drainage away from the levee at all sites. Excavation of the slide areas shall be performed with a dragline, backhoe, scraper or other approved equipment; however, at no time shall equipment be allowed to place a surcharge on the levee which may induce an additional failure. The materials shall be excavated commencing at the top of each slide and progressing downward. Immediately after the final excavation has been accomplished and approved by the Contracting Officer and before preparing the foundation area, cross-section surveys that are to be used for measurement and computation of quantities will be taken by the Contracting Officer. The Contractor shall notify the Contracting Officer at least 24 hours in advance of completing the final excavation of each slide in order to accomplish the cross-section surveys promptly. Material from slide areas shall be stockpiled and moisture adjusted as specified in SECTION 31 22 20-3.2.2.2 and reused as fill material. Additional material from the borrow pits shall supplement this material as required to complete the levee section.

3.4.3 Stockpiling Suitable Material. Suitable excavated material shall be stockpiled and reused as shown on the drawings or as directed by the Contracting Officer. Stockpiles shall be no higher than 20 feet with slopes no steeper than 1 on 2.

3.4.4 Backfill Around Appurtenant Structures. Equipment producing concentrated wheel or track loads will not be allowed within 4 feet of the appurtenant structures. The backfills shall be compacted only by hand and/or mechanically tamped within a minimum distance of four feet in all directions from the structures. Where backfill shall be placed on both sides of the structures, the backfills shall be brought up to grade uniformly so as to not induce any unbalanced lateral loading. Each layer of material shall be compacted to at least 95 percent of the maximum dry density as determined by the moisture density relationship determined in paragraph 31 22 20-3.3.2.

Determination of in-place density shall be in accordance with ASTM D 1556 or ASTM D 2937.

SECTION 31 22 20
IMPERVIOUS EMBANKMENT

PART 1 GENERAL

1.1	SCOPE	31 22 20-1
1.2	QUALITY CONTROL	31 22 20-1
1.3	APPLICABLE PUBLICATIONS	31 22 20-2
1.4	SUBMITTALS	31 22 20-2

PART 2 PRODUCTS

2.1	EQUIPMENT	31 22 20-2
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PART 3 EXECUTION

3.1	FOUNDATION PREPARATION	31 22 20-3
3.2	EMBANKMENT CONSTRUCTION	31 22 20-4
3.3	TESTING	31 22 20-5
3.4	DRESSING	31 22 20-6
3.5	CARE OF WATER	31 22 20-6
3.6	CROSS SECTIONS AND ZONING OF MATERIALS	31 22 20-6
3.7	GRADE TOLERANCES	31 22 20-7
3.8	SLIDES	31 22 20-7

SECTION 31 22 20
IMPERVIOUS EMBANKMENT

1.1 SCOPE. The work covered by this section consists of furnishing all plant, labor, and equipment and performing all operations in connection with foundation preparation, construction of and repair of embankments and wavewash (Types I, II, and III) and other incidental earthwork as shown on the drawings and as hereinafter specified.

1.2 QUALITY CONTROL.

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

- (1) Equipment. Type, size, and suitability for construction of the prescribed work.
- (2) Foundation Preparation. Prepare the foundation by breaking the surface in advance of embankment construction, and during fill placement when necessary, drainage of foundation and partially completed fill.
- (3) Materials. Suitability of materials for use in embankment.
- (4) Materials Testing and Inspection. The Contractor shall be responsible for ensuring that all required testing, and any additional testing required by the Contracting Officer, is performed. All testing shall be performed by a commercial testing laboratory which performs soil testing and which is validated by the Material Center (MTC) and which meets all requirements of SECTION 01 14 40.
- (5) Construction. Layout, maintaining existing drainage, moisture control, thickness of layers, spreading and compacting.
- (6) Grade and Cross Section. Crown width, crown slope, side slopes, and grades.
- (7) Roads and Ramps. Location of temporary roads to fields or buildings, location and placement of fills for ramps in accordance with specified dimensions and grades.
- (8) Grade Tolerances. Check fills to determine if placement conforms to prescribed grade and cross section.
- (9) Slides. Location and limits; methods and equipment used where remedial work has been directed.
- (10) Quantity Surveys. Accuracy and timeliness.
- (11) Moisture Control. Visual soil classification and moisture content determination.

1.2.2 Testing By The Government. During the life of this contract, the Government will perform quality assurance tests to check the Contractor's work for compliance with these specifications. The performance of such tests may temporarily delay the Contractor and shall not be the basis for additional compensation and/or time.

1.2.3 Reporting. A copy of these records of inspections and tests, as well as the records of corrective action taken, shall be furnished the Government daily.

1.3 APPLICABLE PUBLICATIONS. The latest versions of the following publications, referred to hereafter by basic designation only, form a part of this specification to the extent indicated by the references thereto:

1.3.1 American Society for Testing and Materials (ASTM).

D 698	Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft.-lbf/ft (600 kN-m/m)) (305mm) Drop
D 1556	Density and Unit Weight of Soil in Place By The Sand-Cone Method
D 2216	Laboratory Determination of Water (Moisture) Content of Soil and Rock
D 2487	Classification of Soils for Engineering Purposes (Unified Soil Classification System)
D 2937	Density of Soil in Place by the Drive-Cylinder Method
D 4318	Liquid Limit, Plastic Limit, and Plasticity Index of Soils
D 4643	Determination of Water (Moisture) Content of Soil by Microwave Oven Heating

1.4 SUBMITTALS. Government approval is required for all submittals with a "GA" designation; submittals having no designation are for information only. The following shall be submitted in accordance with SECTION 01 33 00 - SUBMITTAL PROCEDURES:

1.4.1 Statements. Earthwork Plan; G. The Contractor shall submit for review and approval by the Contracting Officer, 10 days prior to placing material in stockpile and backfill, the plan of operations for accomplishing all stockpile and backfill specified herein. The plan shall contain, as a minimum but not be limited to, the following:

(1) The Contractor's proposed sequence of construction in accordance with these specifications for stockpile, fill and backfill items. The plan shall describe, as a minimum but not be limited to, the following: satisfactory stockpiling of the excavated material, constructed of

satisfactory compacted slide repair areas, and all other fill and backfill work items that are shown on the drawings.

(2) The Contractor's proposed list of equipment types and quantities of each equipment type to be utilized for all stockpile and backfill operations.

(3) The Contractor's proposed methods for transporting, placing, and compacting the backfills.

(4) The Contractor's proposed methods for providing drainage prior to, during, and after placement of partially completed and completed fills and backfills. The surface sealing of the fill and backfills to minimize precipitation infiltration prior to periods of inactivity such as the end of each work day and rain stoppages.

(5) The Contractor's plan shall include the names and addresses of the commercial testing labs or engineering firms which will perform the soil testing and inspection.

1.4.2 Statements. Testing Plan; G. Submit a testing plan for all in-place soil density testing to be performed by the Contractor or representative. The plan shall include the name of the testing company, an indication of whether there will be offsite or onsite testing laboratory. The Contractor shall describe how all required soils testing will be performed to include but not limited to obtaining untreated samples of slide material, procedures for performing ASTM D 698 per paragraph 3.2.1, and method of selecting sampling location for each stage of work

1.4.3 Reports.

(1) Soil Classification Tests. Submit the results of initial soil classification tests at least 30 days prior to delivery of any such material to the work site, and thereafter submit results within 24 hours of completion of tests.

(2) Moisture Density Relationships Tests. Submit the results of initial moisture density relationships tests at least 30 days prior to delivery of any such material to the work site, and thereafter submit results within 24 hours of completion of tests.

(3) In-Place Density Tests. Submit the results of these tests within 24 hours of completion of tests.

(4) Water (Moisture) Content Tests. Submit the results of these tests within 24 hours of completion of tests.

(5) Additional Tests (If Required). Submit the results of these tests within 24 hours of completion of tests.

PART 2 - PRODUCTS

2.1 EQUIPMENT.

2.1.1.1 Compaction Equipment.

2.1.1.1.1 General. All compaction equipment shall be field checked under the Contracting Officer's direction and supervision prior to their use on the fill to assure that the required results, as specified in paragraph 3.2 of this section, can be obtained. Any equipment which does not produce the required results will not be allowed on the fill.

2.1.1.1.2 Crawler-Type Tractors. Crawler-type tractors may be used to spread impervious embankment for all repairs (Types I, II, or III) and to compact impervious materials for Type I and Type II wave wash repairs. These crawler-type tractors shall weigh at least 20,000 pounds, shall exert a unit tread pressure of at least 6 pounds per square inch, and shall be operated at speeds less than 3.5 miles per hour. Crawler type tractors shall not be used to compact impervious embankment in Type III repairs.

2.1.1.1.3 Sheeps Foot Rollers. Sheeps foot rollers shall be used to compact impervious material for Type III repairs. The Contractor may use tractor-drawn or self-propelled sheeps foot rollers. Sheeps foot rollers shall consist of one or more units and each unit shall consist of a cylindrical drum not less than 60 inches in length and not less than 60 inches in diameter. The drums shall be water, or sand and water ballasted. Each drum shall have staggered feet uniformly spaced over the cylindrical surfaces so as to provide approximately 3 sheeps feet for each two square feet of drum surface. The sheep feet shall be 7 to 9 inches in clear projection from the cylindrical surface of the roller and shall have a face area of not less than 5 nor more than 10 square inches. The weight of the roller when fully loaded shall not be less than 4000 pounds per linear foot of drum length and when empty shall not be more than 2500 pounds per foot of drum length. The Contractor will be required to vary the amount of ballast in the drums to obtain optimum compactive effort for the material being compacted. The rolling units shall be equipped with a suitable device for cleaning the feet. The rolling units of multiple-type sheeps foot rollers shall be pivoted on the main frame in a manner which will permit the units to adapt themselves to uneven ground surfaces and to rotate independently. The roller shall not exceed 3.5 MPH.

2.1.2 Spreading Equipment. Spreading equipment shall be capable of spreading and blending materials in horizontal layers between 4 and 12 inches thick.

2.1.3 Miscellaneous Equipment. Scarifiers, disks, spring-tooth or spike-tooth harrows, and other equipment shall be suitable for the type of construction required and acceptable to the Contracting Officer.

2.1.4 Sprinkling Equipment. Sprinkling equipment shall be designed to apply water uniformly and in controlled quantities to variable widths of surface.

2.2 LEVEE RESTORATION MATERIALS.

2.2.1 General. Levee restoration materials shall be free from

unsuitable materials as defined in SECTION 31 22 23, paragraph 2.2.3 and frozen materials.

2.2.2 Suitable Embankment Material. Suitable embankment materials shall be clays (CL, CH) as classified by ASTM D 2487. If sand or silts are encountered in the excavation, the sand shall be blended with less pervious materials to the extent that it will classify as suitable material. Suitable materials for slide repair shall be repaired with the failed material excavated from the levee embankment. If additional materials are needed to finish the repairs the Contractor shall use material from the borrow site as approved by the Contracting Officer Representative.

2.2.3 Unsuitable Material. Organic matter, sticks, branches, sod, humus, roots, and other debris shall be considered unsuitable.

2.1.4 Water Quality. Water which has been approved by a public health agency for drinking or ordinary household use may be used. Water from stagnant, shallow or marshy surfaces shall not be used. Pipeline intakes in flowing streams and rivers shall be enclosed to exclude silt, mud, grass and other solid materials and there shall be a minimum depth of 2 feet of water under the intake at all times. In addition, water obtained from other than State approved sources shall be free from oil, acid, alkali or any other substances deleterious to the soil.

2.1.5 Crushed Stone. The crushed stone shall conform to the hereinafter cited Sections and Articles, of the State of Illinois, Department of Transportation, "Specifications for Road and Bridge Construction", adopted January 1, 2012, SECTION 1004, COARSE AGGREGATE, Articles 1004.01, 1004.04, Gradation CA-10, Type B.

PART 3 - EXECUTION

3.1 FOUNDATION PREPARATION.

3.1.1 Scarifying. After clearing, grubbing, and stripping of any required excavation, any cavities and depressions shall be broken down, where so directed, to flatten out the slopes. The entire earth surface on or against which fill is to be placed shall be thoroughly scarified to a depth of 6 inches. If for any cause, this broken surface becomes compacted in such a manner that, in the opinion of the Contracting Officer, a plane of seepage or weakness might be induced, it shall again be adequately scarified before depositing material thereon.

3.1.2 Drainage. All foundations receiving fill and all partially completed fill shall be kept thoroughly drained. The Contractor shall drain or pump water from any area to receive fill.

3.1.3 Frozen Ground. No fill shall be placed upon frozen ground.

3.2 EMBANKMENT CONSTRUCTION.

3.2.1 Embankment Materials. The embankment shall be constructed of earth obtained from the borrow areas as shown on the drawings. The

embankment shall be constructed of earth that is free from unsuitable and frozen materials as defined in 3.2.1.1 and 3.2.1.2.

3.2.1.1 Unsuitable Materials. Unless otherwise specified, material classified by the Unified Soil Classification System as gravels (GW, GP, GM) and sands (SW, SP, SM) shall not be used, unless suitably blended with less pervious material to the extent that it no longer classifies as these materials. Materials which are also classified as unsuitable are defined as masses of organic matter, sticks, branches, roots, and other debris. As earth from the designated borrow areas may contain excessive amounts of wood, isolated pieces of wood will not be considered objectionable in the embankment provided their length does not exceed 1 foot, their cross-sectional area is less than 4 square inches, and they are distributed throughout the fill. Not more than 1 percent by volume of objectionable material shall be contained in the earth material placed in each cubic yard of the levee section. Pockets and/or zones of wood shall not be placed in the embankment.

3.2.1.2 Frozen Materials. Under no circumstances shall frozen earth, snow or ice be placed in an embankment.

3.2.2 Placement of Impervious Fill for Type I, II, and Type III Repairs.

3.2.2.1 General. Impervious fill shall not be placed in water. The materials for impervious fill shall be placed or spread in layers, the first layer not more than 6 inches in thickness and the succeeding layers not more than 8 inches in thickness prior to compaction. Layers shall be started full out to the slope stakes and shall be carried substantially horizontal and parallel to the levee centerline with sufficient crown or slope to provide satisfactory drainage during construction. Benching into the slope of the existing embankment is required in order to place and compact the material in horizontal layers. The vertical face of the existing embankment resulting from the benching operation shall be a minimum of one foot in height but shall not exceed two feet in height. Where the Contracting Officer determines that the extent of the fill is such that benching is not practical, the Contractor will be allowed to place the fill without benching. All other requirements for placing and compacting fill under this section shall apply as stated herein. When the surface of any compacted layer is too smooth to bond properly with the succeeding layer, it shall be adequately scarified before the next layer is placed thereon.

3.2.2.2 Moisture Control. The Contractor shall control the moisture content of the impervious backfill material. Impervious materials for Type I and Type II repairs shall be placed at the naturally occurring moisture content unless, in the opinion of the Contracting Officer, the material is too wet or too dry to achieve adequate compaction. Impervious material for Type III repairs shall be placed at moisture content no more than 4.0 percent above the optimum moisture content or 2.0 percent below the optimum as determined by the moisture-density relationship determined in paragraph 3.3. The Contractor shall perform the necessary work in moisture control to bring the borrow material within the moisture content range specified above. If

the borrow material is too wet, it shall be processed by disking and harrowing until the moisture content is within the specified relative limits. If the borrow material is too dry, it shall either be prewet in the borrow area, or sufficient moisture shall be uniformly distributed in each layer before compacting.

3.2.3 Compaction of Impervious Fill for Types I, II, and III Repairs.

3.2.3.1 Requirements. It shall be the Contractor's responsibility to ensure that the equipment as specified in PART 2 shall produce compacted fills which meet the requirements of this section. The Contractor shall compact impervious material using the equipment specified in 2.1.1.3.

3.2.3.2 Minimum Passes, Impervious Embankment. The contractor shall compact each layer of impervious material with a minimum of six passes of the compaction equipment. A pass shall consist of one complete coverage of the surface of a layer by the sheepsfoot roller specified in 2.1.1. Portions of the embankment which the compacting equipment cannot reach for any reason shall be compacted by other approved methods to the required density.

3.2.3.3 Type I and Type II Wave Wash Compaction. Each layer of wave wash repair material shall be compacted with 6 complete passes of the approved sheeps foot roller or crawler-type tractor specified under 2.1.

3.2.3.4 Type III Embankment Compaction. The moisture content and conditions of each spread layer shall be satisfactory and each layer of material shall be compacted to at least 95 percent of the maximum dry density as determined by the moisture density relationship determined in paragraph 3.3. Determination of in-place density shall be in accordance with ASTM D 1556 or ASTM D 2937.

3.2.3.4 Additional Compaction. If, in the opinion of the Contracting Officer, the desired compaction of any portion of the fill has not been secured, the Contractor shall make additional efforts over the surface area of such designated portion until the desired compaction has been obtained.

3.3 TESTING.

3.3.1 Standard Compaction Tests. A moisture-density relationship shall be performed with every soil density test. The moisture-density relation of the embankment material for the levee restoration shall be performed in accordance with ASTM D 698, Method A except for the following field proctor procedures: A sample of soil shall be obtained immediately around each soil density test. The soil shall be passed thru a No. 4 sieve. After the soil is passed thru a No. 4 screen, three or more specimens are weighed for each field proctor. Water content for each specimen is then adjusted to bracket the estimate optimum water content. Water adjustment between specimens should be approximately 2%. The sieved material may have to be air dried using a fan. After the adjustments to the water content is completed, proceed with paragraph 10.4 of ASTM D 698 to complete the procedures. Determination of water content shall be performed in accordance with SECTION 31 22 23, paragraph 3.3.2

3.3.2 Soil Density Testing. The soil density of the fill and backfill materials shall be tested in accordance with ASTM D 1556 or ASTM D 2937. At least one density determination shall be performed every 18 inches vertically, and randomly staggered in the fill and backfill areas as specified in SECTION 31 22 23, paragraph 1.2.1(3). The in-place soil density shall be compared with the standard compaction test specified in SECTION 31 22 23, paragraph 3.3.1. Test results from a nuclear densometer will not be accepted for quality control record tests.

3.3.3 Water (Moisture) Content Tests. Determination of water content shall be performed in accordance with ASTM D 2216. Water content tests from microwave ovens performed in accordance with ASTM D 4643 can be used for record test results provided the following are met: The percent compaction compare to the oven results is within the range of plus or minus 1.0 and also the difference from optimum moisture content compare to the oven results is within the range of plus or minus 1.0. If either or both compaction and moisture content requirements fall outside the 1.0 allowance, then the oven dried results shall govern.

3.3.4 Soil Classification Tests. Soil classification tests shall be performed in accordance with ASTM D 2487. Soils classification test shall be performed with every soil testing test.

3.3.5 Additional Testing. The Contracting Officer may request additional tests if:

- (1) There is reason to doubt the adequacy of the compaction.
- (2) Special compaction procedures are being used.
- (3) Materials change and the Contracting Officer determines that the Contractor's testing is inadequate.

3.4 DRESSING. The entire embankment, including topsoil where specified, shall be brought to not less than the prescribed design cross section within allowable tolerance, at all points. Unreasonable roughness of surface shall be dressed out to permit turving operations.

3.5 CARE OF WATER. The foundation receiving embankment and all partially completed fill shall be kept thoroughly drained. The Contractor shall control the earthwork to prevent water from flowing into the work area.

3.6 CROSS SECTIONS AND ZONING OF MATERIALS.

3.6.1 Embankment Sections. Unless otherwise specified, the dimensions and slopes shall conform to the existing levee cross-section.

3.6.2 Zoning of Materials for Levee Construction. In general, the levee section shall be homogeneous; however, where materials of varying permeabilities are encountered in the borrow areas, the more impervious material shall be placed toward the riverside slope, and the more pervious material toward the landside slope.

3.6.3 Berms. Berms shall be constructed at the locations and to the grade and cross section shown on the drawings.

3.7 GRADE TOLERANCES. All embankments shall be constructed to the design grade and cross section shown on the drawings with a tolerance of 2/10 of 1 foot above and zero feet below the prescribed design grade provided that the crown of the levee drains, there are no abrupt humps or depressions in surfaces or bulges in the width of the crown, and the side slopes are uniform. Any partial fill or temporarily stockpiled material placed within the design section shall not exceed the design grade or design slopes of the embankment.

3.8 SLIDES. Should sliding occur in any part of the embankment during its construction, or after its completion, but prior to its acceptance, the Contractor shall, upon written order of the Contracting Officer, either cut out and remove the slide from the embankment and then rebuild that portion of the embankment, or construct a stability berm of such dimensions, and placed in such manner, as the Contracting Officer shall prescribe. In case the slide is caused through fault of the Contractor, the foregoing operations shall be performed at no additional cost to the Government. In case the slide is not the fault of the Contractor, the material shall be replaced and an equitable adjustment in the contract price will be made in accordance with the Contract Clause entitled "Changes". The method of slide correction will be determined by the Contracting Officer.

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SECTION 32 29 35
ESTABLISHMENT OF TURF

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SECTION 32 29 35
ESTABLISHMENT OF TURF

PART 1 - GENERAL

1.1 SCOPE.

1.1.1 General. The work covered by this section of the specifications consists of furnishing all materials, equipment, plant and labor, and performing all work required for seeding, mulching, liming, and fertilizing in accordance with the requirements of this section of the specifications.

1.1.2 Turfing. Turf shall be established with Seed A mix on all levees, and with Seed B mix on all areas that were stripped and any area where the existing vegetation has been damaged by personnel, equipment, or materials, unless otherwise directed by the contracting officer.

1.1.3 Seasonal Limitations. When all work under this contract is completed except work required under this section, and such work is not performed because of seasonal limitations stated in paragraph 1.4, or because of conditions occurring within the specified seeding seasons which, in the opinion of the Contracting Officer, are unfavorable for such work, the time for completion will be extended by the number of days that this work is thereby delayed.

1.2 QUALITY CONTROL.

1.2.1 General. The Contractor shall establish and maintain quality control to assure compliance with the contract specifications and shall maintain records of quality control for all construction operations, including, but not limited to the following:

- (1) Dressing
- (2) Fertilizing
- (3) Liming
- (4) Mulching
- (5) Seeding.

1.2.2 Reporting. A copy of these records of inspections and tests, as well as the records of corrective action taken, shall be furnished to the Government daily.

1.3 SUBMITTALS. Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with SECTION 01 33 00 - SUBMITTAL PROCEDURES.

1.3.1 Soil Test Results. GA. Submit soil test results and fertilizer application rates.

1.4 COMMENCEMENT, PROSECUTION, AND COMPLETION. Seeding operations shall be performed between April 1 to June 15 and August 1 to November 1. All embankment work completed prior to the seeding seasons shall be protected

from eroding, as approved by the Contracting Officer. Seed, fertilizer, limestone and mulch shall be applied as herein specified and in accordance with standard horticultural practices for establishing new turf.

1.5 Payment for establishment of turf will be made at the contract lump sum price for "Establishment of Turf", which price and payment shall constitute full compensation for providing all plant, labor, material and equipment and for performing all operations necessary to complete the work as specified and as shown on the drawings.

PART 2 - PRODUCTS

2.1 FERTILIZER. Fertilizer shall be uniform in composition and free-flowing. The fertilizer may 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 fertilizer laws of the State and shall bear the name, trade name or trademark, and warranty of the producer. The fertilizer shall meet the requirements of the State for commercial fertilizer. 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. In the event the commercial mixture is delivered to the job site in the original containers, unopened, the analysis report will not be required. Quantity of fertilizer required per acre shall be determined by certified soil tests as specified in paragraph 3.1 - SAMPLING AND TESTING.

2.2 LIMESTONE. Limestone shall be approved agricultural grade limestone containing not less than 90 percent total carbonates. Limestone shall be ground to such fineness that 25 percent will pass a 100-mesh sieve and 100 percent will pass an 8-mesh sieve. Quantity of lime required per acre shall be determined by certified soil tests as specified in paragraph 3.1 - SAMPLING AND TESTING.

2.3 SEED. Seed labeled in accordance with U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act, as reprinted with amendments August 1963, shall be furnished by the Contractor. Seed shall be fresh, new crop, 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 seed mixes, rates of application, minimum percent purity and germination, and maximum percent weed control shall be as shown in the following table:

2.3.1 General Seed Mixture.

<u>SEED MIX A</u>				
<u>Kind of Seed</u>	<u>Pounds Per Acre</u>	<u>Min. % Purity</u>	<u>Min. % Germination</u>	<u>Max. Weed % Content</u>
Common Perennial Rye Grass <i>Lolium perenne</i>	50	98	85	0.8
Kentucky 31 Tall Fescue <i>Festuca arundinacea</i>	50	98	85	0.8

SEED MIX B

<u>Kind of Seed</u>	<u>Pounds Per Acre</u>	<u>Min. % Purity</u>	<u>Min. % Germination</u>	<u>Max. Weed % Content</u>
Winter Wheat <i>Triticum aestivum</i>	50	95	80	0.8
Virginia Wild Rye <i>Elymus virginicus</i>	4	98	85	0.8
Eastern Gama Grass <i>Tripsacum dactyloides</i> (Cuivre River or other lowland type)	10	98	85	0.8
Switch grass <i>Panicum virgatum</i> (Cave n Rock)	8 8	98 98	85 85	0.8 0.8

Alternate seed mixes submitted by the Contractor shall be approved by the Contracting Officer before use.

2.4 MULCH. Threshed straw from a cereal grain such as oats, wheat, barley, or grass hay shall be provided. Materials that contain noxious grass or weed seeds will not be acceptable. Mulch shall be uniformly applied at the rate of 4,000 pounds per acre.

2.5 MULCH STABILIZERS. The Contractor shall embed or anchor the mulch into the soil by using an approved disk type roller having flat serrated disks spaced not more than 9 inches apart and equipped with cleaning scrapers.

2.6 WATER. Water shall be free from oil, acid, alkali, salt, etc., and shall be from a source approved prior to use.

PART 3 - EXECUTION

3.1 SAMPLING AND TESTING. Following completion of all earthwork, soil tests from the area to be seeded shall be performed by a recognized commercial testing laboratory to determine pH Level of soil and recommend application rates of nitrogen, phosphorous, potash and limestone. Testing shall be the responsibility of the Contractor and shall be accomplished at no additional cost to the Government. At least one soil sample and test shall be taken every two acres, and one composite report shall be made by the testing agency. The test results and application rates for nitrogen, phosphorous, potash and limestone indicated by the soil tests for preplanting fertilization shall be furnished to the Contracting Officer for review and approval prior to the Contractor ordering the soil nutrients.

3.2 ESTABLISHMENT.

3.2.1 General. The Contractor shall assume responsibility for proper care of seeded areas while grass is becoming established for 3 months after completion of turfing, or returving if any, on the entire project, unless the desired cover is established in a shorter period of time and the Contracting Officer shortens the responsibility period.

3.2.2 Mowing. Turfed areas shall be kept mowed to a height between 4 and 8 inches above the turfed earth surface.

3.2.3 Refertilizing. The Contracting Officer will designate areas needing refertilization at least 15 days before reapplication is required. Fertilizer shall be distributed on designated areas during the period when grass is dry. Fertilizer shall be applied uniformly at the rate determined as specified in paragraph 3.1 - SAMPLING AND TESTING. Fertilizer conforming to physical condition, packaging, and marking as specified hereinbefore shall be provided.

3.2.4 Reseeding. The Contracting Officer will designate areas requiring reseeding at least 15 days before the period specified for reseeding. Seed as specified hereinbefore shall be distributed at the rate specified in paragraph 2.3 - SEED, of each ingredient per acre in a manner that will cause minimum disturbance to the existing stand of grass.

3.3 REPAIR. When the surface to be turfed becomes gullied or otherwise damaged or when previously placed turfing is damaged, the affected area shall be repaired to re-establish the condition prior to damage, as directed. Repair work required because of faulty operations or negligence on the part of the Contractor shall be performed without additional cost to the Government.

3.4 INSPECTION AND ACCEPTANCE. Final acceptance will be based upon having a dense, well-rooted turf which is capable of preventing erosion. Grass areas which show signs of erosion, ruts., etc, shall not be acceptable. Seeded areas shall be mowed to a height of four inches immediately prior to inspection.

-END OF SECTION 32 29 35

