

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01090

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

1.2 ORDERING INFORMATION

-- End of Section Table of Contents --

SECTION 01090

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the sponsoring organization, e.g.

UL 1 (1993; Rev thru Jan 1995) Flexible Metal Conduit. However, when the sponsoring organization has not assigned a number to a document, an identifying number has been assigned for convenience, e.g. UL's unnumbered 1995 edition of their Building Materials Directory is identified as UL-01 (1995) Building Materials Directory. The sponsoring organization number (UL 1) can be distinguished from an assigned identifying number (UL-01) by the lack of a dash mark (-) in the sponsoring organization assigned number.

1.2 ORDERING INFORMATION

The addresses of the organizations whose publications are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the sponsoring organization should be ordered from the source by title rather than by number.

ACI INTERNATIONAL (ACI)

P.O. Box 9094
Farmington Hills, MI 48333-9094
Ph: 248-848-3700
Fax: 248-848-3801
Internet: <http://www.aci-int.org>

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Ph: 610-832-9500
Fax: 610-832-9555
Internet: www.astm.org

NOTE: The annual ASTM Book of Standards (66 Vol) is available for \$3500.00. Prices of individual standards vary.

AMERICAN WELDING SOCIETY (AWS)

550 N.W. LeJeune Road

Miami, FL 33126
Ph: 305-443-9353
Fax: 305-443-7559
Internet: <http://www.amweld.org>

CODE OF FEDERAL REGULATIONS (CFR)

Order from:
Government Printing Office
Washington, DC 20402
Ph: 202-512-1800
Fax: 202-275-7703
Internet: <http://www.pls.com:8001/his/cfr.html>

CORPS OF ENGINEERS (COE)

Order from:
U.S. Army Engineer Waterways Experiment Station
ATTN: Technical Report Distribution Section, Services
Branch, TIC
3909 Halls Ferry Rd.
Vicksburg, MS 39180-6199
Ph: 601-634-2571
Fax: 601-634-2506
NOTE: COE Handbook for Concrete and Cement (Documents w/prefix
CRD-C) (1949-present; 2 Vol) free to Government offices; \$10.00
plus \$8.00 per yr for 4 qtrly supplements to others). Individual
documents, single copies free. Order from address above.

DEPARTMENT OF COMMERCE (DOC)

Order From:
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
Ph: 703-487-4600
Fax: 703-321-8547
Internet: <http://www.ntis.gov>

ENGINEERING MANUALS (EM)

USACE Publications Depot
Attn: CEIM-SP-D
2803 52nd Avenue
Hyattsville, MD 20781-1102
Ph: 301-394-0081

FEDERAL SPECIFICATIONS (FS)

Order from:
General Services Administration
Federal Supply Service Bureau
470 L'Enfant Plaza, S.W.
Washington, DC 20407

Ph: 202-619-8925
Fax: 202-619-8978
Internet: <http://pub.fss.gsa.gov/>

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

Mail Stop C-13
4676 Columbia Parkway
Cincinnati, OH 45226-1998
Ph: 800-356-4676
Internet: <http://www.cdc.gov/niosh/homepage.html>
To order pubs for which a fee is charged, order from:
Superintendent of Documents
Government Printing Office
Washington, DC 20402-9325
Ph: 202-512-1800
Fax: 202-512-2250

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

Department of Commerce
Gaithersburg, MD 20899-0001
Ph: 301-975-4025
Fax: 301-926-1630
Order Publications From:
Superintendent of Documents
U.S. Government Printing Office (GPO)
Washington, DC 20402
Ph: 202-512-1800
Fax: 202-512-2250
or
National Technical Information Services (NTIS)
5285 Port Royal Rd.
Springfield, VA 22161
Ph: 800-553-6847
Fax: 703-321-8547
Internet: <http://www.gov/ntis.gov>

NATIONAL READY-MIXED CONCRETE ASSOCIATION (NRMCA)

900 Spring St.
Silver Spring, MD 20910
Ph: 301-587-1400
Fax: 301-585-4219

UNDERWRITERS LABORATORIES (UL)

333 Pfingsten Rd.
Northbrook, IL 60062-2096
Ph: 847-272-8800
Fax: 847-272-8129
Internet: <http://www.ul.com/>

Note: First price is for the standard only. Second price is for

the standard including the Revision Subscription Service.

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01200

GENERAL REQUIREMENTS

PART 1 GENERAL

- 1.1 PROJECT FACILITIES
 - 1.1.1 Construction Signs
 - 1.1.2 Bulletin Board
 - 1.1.3 Sanitary Facilities

PART 2 PRODUCTS

- 2.1 CONSTRUCTION SIGNS
 - 2.1.1 Materials
 - 2.1.1.1 Lumber
 - 2.1.1.2 Plywood
 - 2.1.1.3 Bolts, Nuts and Nails
 - 2.1.1.4 Paints and Oils

PART 3 EXECUTION

- 3.1 CONSTRUCTION OF SIGNS
 - 3.1.1 Project and Hard Hat Signs
 - 3.1.2 Warning Signs
- 3.2 PAINTING SIGNS
- 3.3 PROJECT ENGINEERS'S OFFICE EQUIPMENT
- 3.4 BULLETIN BOARD
- 3.5 MAINTENANCE AND DISPOSAL OF PROJECT FACILITIES
- 3.6 UNSATISFACTORY AND SCRAP MATERIAL
- 3.7 ARCHAEOLOGICAL FINDINGS DURING CONSTRUCTION
- 3.8 PROTECTION OF EXISTING WORK
- 3.9 PUBLIC UTILITIES, NOTICES, AND RESTRICTIONS
 - 3.9.1 General
 - 3.9.2 Relocation or Removal
 - 3.9.3 Utilities Not Shown
 - 3.9.4 Coordination
 - 3.9.5 Notices
 - 3.9.5.1 Utilities To be Relocated or Protected
 - 3.9.5.2 Existing Bench Marks and R/W Markers
 - 3.9.5.3 Disposal Site
 - 3.9.5.4 Spill Reporting
 - 3.9.5.5 Environmental Assessment Requirement
 - 3.9.6 Restrictions
 - 3.9.6.1 Representatives of Other Agencies

- 3.9.6.2 Traffic Control Plan
- 3.9.6.3 Existing Roads
- 3.9.6.4 Access and Haul Roads
- 3.9.6.5 Public and Private Access Roads
- 3.9.6.6 Maintenance of Roads
- 3.9.6.7 Traffic Safety
- 3.9.6.8 Rock and Gravel
- 3.9.6.9 Cooperation with Others
- 3.9.6.10 Temporary Culverts
- 3.9.7 Working Hours
- 3.9.8 Construction Water
- 3.9.9 Lighting
- 3.9.10 Identification of Vehicles
- 3.9.11 Construction Method Observation
- 3.9.12 Contractor's Equipment
- 3.10 PUBLIC SAFETY
- 3.11 OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) STANDARDS
 - 3.11.1 Accident Reporting
- 3.12 PERMITS
 - 3.12.1 General
 - 3.12.2 Air Pollution Permit (APP)
 - 3.12.3 National Pollutant Discharge Elimination System (NPDES) Permit
- 3.13 NOTICE OF PARTNERSHIP
- 3.14 AS-BUILT DRAWINGS
 - 3.14.1 General
 - 3.14.2 Options
 - 3.14.3 Submittal to Contracting Officer for review and approval
- 3.15 DISPOSAL SITES
 - 3.15.1 Disposal Site
- 3.16 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (ER 415-1-15, 31 OCT 89)
- 3.17 REQUIRED INSURANCE
- 3.18 SPECIAL CONSTRUCTION REQUIREMENTS
 - 3.18.1 PROJECT LIMITS
 - 3.18.2 ORDER OF CHANNEL CONSTRUCTION
 - 3.18.2.1 Storm Runoff
 - 3.18.2.2 Construction RCB channel sections.

-- End of Section Table of Contents --

SECTION 01200

GENERAL REQUIREMENTS

PART 1 GENERAL

1.1 PROJECT FACILITIES

The Contractor shall construct and/or erect the following project facilities as soon as possible and not less than 15 calendar days after notice to proceed.

1.1.1 Construction Signs

The signs shall include the following:

- a. Project Signs: One Project Sign at location designated by the Contracting Officer.
- b. Warning Signs: Facing approaching traffic on all haul roads crossing under overhead power transmission lines.
- c. Hard Hat Signs: Ten hard hat signs at locations directed.

1.1.2 Bulletin Board

Bulletin board shall be erected at the Contractor's office.

1.1.3 Sanitary Facilities

Suitable sanitary facilities shall be provided and maintained by the Contractor.

PART 2 PRODUCTS

2.1 CONSTRUCTION SIGNS

2.1.1 Materials

2.1.1.1 Lumber

FS MM-L-751, and shall be seasoned Douglas Fir, S4S, Grade D or better except that posts, braces and spacers shall be construction Grade (WCLB).

2.1.1.2 Plywood

DOC PS 1, grade A-C, Group 1, exterior type.

2.1.1.3 Bolts, Nuts and Nails

Bolts shall conform to FS FF-B-575, nuts shall conform to FS FF-N-836, and nails shall conform to FS FF-N-105.

2.1.1.4 Paints and Oils

Paints shall conform to FS TT-P-001984 for primer and FS TT-E-1510 for finish paint and lettering.

PART 3 EXECUTION

3.1 CONSTRUCTION OF SIGNS

3.1.1 Project and Hard Hat Signs

Constructed as detailed in Figures 1, 1A, 2, 3 and Safety Signs. Decals signs will be furnished by the Contracting Officer.

3.1.2 Warning Signs

Constructed of plywood not less than 1/2 inch thick and shall be securely bolted to the supports with the bottom of the sign face 3 feet above the ground. The sign face shall be 24 in. x 48 in., all letters shall be 4 in. in height, and the wording shall be: "WARNING: OVERHEAD TRANSMISSION LINES."

3.2 PAINTING SIGNS

All exposed surfaces and edges of plywood shall be given one coat of linseed oil and be wiped prior to applying primer. All exposed surfaces of signs and supports shall be given one coat of primer and 2 finish coats of white paint. Except as otherwise indicated, lettering on all signs shall be black and sized as indicated.

3.3 PROJECT ENGINEERS'S OFFICE EQUIPMENT

Contractor shall provide computer software (3.5" floppy disc size) to the Contracting Officer for the type of scheduling system to be used and quantity/fill programs for tracking or estimating bid quantities during construction. Scheduling software must be capable of downloading completely to the COE Standard Data Exchange Format. The Contractor shall utilize a hand held radio system for communication between the Contractor's quality control representative and the Government's quality assurance representative. Radio equipment for the Governments use shall include a hand held radio, two batteries and one charger. The Contractor shall provide Government personnel with the following equipment for the duration of the contract: 1 Cellular telephone with voice mail, 2 nickel cadmium batteries, 1 desk top charger, 1 travel charger, and 400 minutes of air time per month or portion thereof.

3.4 BULLETIN BOARD

A weatherproof bulletin board, approximately 36 inches wide and 30 inches high, with hinged glass door shall be provided adjacent to or mounted on the Contractor's project office. If adjacent to the office, the bulletin board shall be securely mounted on no less than 2 posts. Bulletin board and posts shall be painted or have other approved factory finish. The bulletin board shall be easily accessible at all times and shall contain wage rates, equal opportunity notice, and such other items required to be posted.

3.5 MAINTENANCE AND DISPOSAL OF PROJECT FACILITIES

The Contractor shall maintain the project facilities in good condition throughout the life of the project. Upon completion of work under this contract, the facilities covered under this section will remain the property of the Contractor and shall be removed from the site at his expense.

3.6 UNSATISFACTORY AND SCRAP MATERIAL

Materials characterized as unsatisfactory soil in accordance with Section 02200 EXCAVATION and materials indicated to be removed and not indicated to be salvaged, stored or reinstalled are designated as scrap shall become the property of the Contractor and be removed from the site of work. The Contractor by signing this contract hereby acknowledges that he made due allowance for value, if any, of such scrap in the contract price.

3.7 ARCHAEOLOGICAL FINDINGS DURING CONSTRUCTION

Should the Contractor or any of his employees in the performance of this contract find or uncover any archaeological remains, he shall notify the Project Engineer immediately. Such notifications will be a brief statement in writing giving the location and nature of the findings. Should the discovery site require archaeological studies resulting in delays and/or additional work, the Contractor will be compensated by an equitable adjustment under the CONTRACT CLAUSES of the contract.

3.8 PROTECTION OF EXISTING WORK

Before beginning any cutting or removal work, the Contractor shall carefully survey the existing work and examine the drawings and specifications to determine the extent of the work. The Contractor shall take all necessary precautions to insure against damage to such work to remain in place, to be reused, or to remain the property of the Government, and any damage to such work shall be repaired or replaced as approved by the Contracting Officer at no additional cost to the Government. The Contractor shall carefully coordinate the work of this section with all other work and construct and maintain shoring, bracing and supports, as required. The Contractor shall insure that structural elements are not overloaded and be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under any part of this contract.

3.9 PUBLIC UTILITIES, NOTICES, AND RESTRICTIONS

3.9.1 General

The approximate location of all railroads, pipe lines, power and communication lines, and other utilities known to exist within the limits of the work are indicated on the drawings. The sizes, locations, and names of owners of such utilities are given from available information, but their accuracy is not guaranteed. Except as otherwise indicated on the drawings, all existing utilities will be left in place and the Contractor shall conduct his operations in such a manner that the utilities will be protected from damage at all times, or arrangements shall be made by the Contractor for their relocation at the Contractor's own expense. The Contractor shall be responsible for any damage to utilities known to exist and shall reimburse the owners for such damage caused by his operations.

3.9.2 Relocation or Removal

Utilities to be relocated or removed not as part of this contract are designated "To be Relocated by Others" or "To be Removed by Others", respectively. Utilities shown on the plans and not so designated will be left in place and be subject to the provisions of the CONTRACT CLAUSE: PROTECTION OF EXISTING VEGETATION, STRUCTURES, UTILITIES, AND IMPROVEMENTS.

The Contractor may make arrangements with the owner for the temporary relocation and restoration of utilities not designated to be relocated, or for additional work in excess of the work needed to relocate utilities designated for relocation at no additional cost to the Government.

3.9.3 Utilities Not Shown

If the Contractor encounters, within the construction limits of the entire project, utilities not shown on the plans and not visible as of the date of this contract and if such utilities will interfere with construction operations, he shall immediately notify the Contracting Officer in writing to enable a determination by the Contracting Officer as to the necessity for removal or relocation. If such utilities are left in place, removed or relocated, as directed by the Contracting Officer, the Contractor shall be entitled to an equitable adjustment for any additional work or delay.

3.9.4 Coordination

The Contractor shall consult and cooperate with the owner of utilities that are to be relocated or removed by others to establish a mutual performance schedule and to enable coordination of such work with the construction work. These consultations shall be held as soon as possible after award of the contract or sufficiently in advance of anticipated interference with construction operations to provide required time for the removal or relocation of affected utilities.

3.9.5 Notices

3.9.5.1 Utilities To be Relocated or Protected

The Contractor shall notify the Contracting Officer, in writing, 14 calendar days prior to starting work on any utility to be relocated or protected. On each relocation, notification shall include dates on which the Contractor plans excavation, by-pass work, removal work and/or installation work, as applicable.

3.9.5.2 Existing Bench Marks and R/W Markers

The Contractor shall notify the Contracting Officer, in writing, 7 days in advance of the time he proposes to remove any bench mark or right-of-way marker.

3.9.5.3 Disposal Site

Excess Satisfactory excavated materials not utilized as part of the construction shall be crushed or processed to maximum particle size of 3/4 of lift thickness, hauled, placed, and compacted in the disposal site per lines and grades shown on drawing sheet 30. Unsatisfactory soils and materials designated as scrap shall be removed from project site and disposed according to paragraph 3.6 of this section. The Contractor shall indicate the approximate quantities of material he proposes to place in disposal site. In addition to the above requirements, the Contractor shall notify the Contracting Officer 24 hours in advance of the time he proposes to start operations in the disposal area, and 48 hours in advance of any work which he proposes to do in the disposal area on Saturday, Sunday or legal holidays.

3.9.5.4 Spill Reporting

The Contractor shall notify the Contracting Officer immediately after any spill, regardless of quantity, including all personnel exposures. The Contractor shall submit a written notification not later than 7 calendar days after the initial notification. The written notification shall include the following:

- a. Item spilled, leaked or releases in an unauthorized manner (Identification, Quantity and Manifest Numbers).
- b. Whether the amount spilled, leaked or released in an unauthorized manner is EPA reportable and, if reported, a copy of the report.
- c. Exact location of the spill, leak or unauthorized release.
- d. Nature of exposure to personnel.
- e. Containment procedures initiated.
- f. Anticipated cleanup and disposal procedure.
- g. Disposal location of spill, leak or unauthorized release residue.

3.9.5.5 Environmental Assessment Requirement

In order to satisfy the Environmental Assessment for this project, the

Contracting Officer is required to have a qualified biologist on site at all times while clearing and grubbing operations are in progress. The biologist will be provided by the government. The Contractor shall notify the Contracting Officer 14 calendar days prior to the start of clearing and grubbing activities so that a biological monitor shall be required to walk immediately in front of the Contractor's clearing and grubbing equipment to survey for the threatened desert tortoise. For scheduling purposes, the Contractor shall coordinate and complete all clearing and grubbing activities within one-four workday period.

3.9.6 Restrictions

3.9.6.1 Representatives of Other Agencies

Personnel representing owners and agencies may be present for various portions of the work. However, the Contractor will be responsible only to the Contracting Officer.

3.9.6.2 Traffic Control Plan

The Contractor shall develop a Traffic Control Plan and obtain an approval from the Clark County Department of Public Works prior to construction. The plan shall include vehicular detour plans, details of truck haul routes, details of roadway restriping and signage for vehicular circulation, and parking details.

3.9.6.3 Existing Roads

The work shall be planned in such a manner that traffic on the existing roads outside actual construction areas and through the construction area shall be maintained at all times. The work area shall be examined carefully relative to the order and scope of work to be performed, with respect to the limiting provisions of the plans and specifications. The construction schedule shall be prepared giving full consideration to not impacting and maintaining traffic on existing roads outside and through the construction area. Additional work on the existing roads may be done by others during the life of this contract.

3.9.6.4 Access and Haul Roads

Plans shall be submitted for approval for all proposed access and haul roads, whether within or outside the limits of the construction area, at least 15 calendar days prior to construction of such roads. The plans shall indicate width of road, direction of traffic, road markings, type of guardrail, curves, grades, runouts, and other information in sufficient detail for studying safety of the proposed roads. Haul roads shall be proposed so that use of existing residential streets and roads are minimized.

3.9.6.5 Public and Private Access Roads

When it is necessary for heavy equipment to operate on or to cross project roads or arterial roads, flaggers, signs, lights and/or other necessary safeguards shall be furnished to safely control and direct the flow of

traffic. When it is necessary to operate on existing roads outside the construction area, all necessary permits shall be obtained from the appropriate private or public authority. Work shall be conducted in such manner so as to obstruct and inconvenience traffic on existing roads outside the construction limits as little as possible. Spillage of earth, dusty materials, boulders, and mud on project roads or other road will not be permitted. If spillage cannot be prevented, the spillage shall be immediately removed and such areas shall be kept clear throughout the workday. At the conclusion of each workday, such traveled areas shall be cleared of spillage, boulders, and mud.

3.9.6.6 Maintenance of Roads

All haul and access roads, within the construction area, including the borrow areas, shall be maintained to provide vehicular access for the Government's vehicles and the Contractor's vehicles and equipment. Road maintenance shall include rock/mud slides, washouts, and any incident which would restrict vehicular/equipment access. Prior to any alterations of any road alignment, the Contractor shall receive an approval from the Contracting Officer. Road maintenance and alterations shall be performed by the Contractor at no additional cost to the Government.

3.9.6.7 Traffic Safety

In accordance with CONTRACT CLAUSE: ACCIDENT PREVENTION, signs, barricades, and warning devices shall be provided, installed, and maintained as are required for protection of vehicular traffic at any location where operations interfere with public roads. Signs, barricades, lights, and signals, shall be in conformance with Part VI of the U.S. Department of Transportation Manual on Uniform Traffic Control Devices for Streets and Highways.

3.9.6.8 Rock and Gravel

Rock and gravel for use on haul roads and other facilities may be obtained from any source with the excavation limits or stockpiles within the project boundaries not designated for other use. The use of any such source shall be subject to approval by the Contracting Officer.

3.9.6.9 Cooperation with Others

In addition to CONTRACT CLAUSE: OTHER CONTRACTS, agreements shall be made for cooperative use and maintenance of project road directly between the Contractors concerned and shall be subject to approval by the Contracting Officer. No maintenance shall be charged for its use of the roads. During the life of this contract, the Contractor is advised that the activities of other contractors will require access to portions of the Project Limits. These activities are listed at the end of this section under, SPECIAL CONSTRUCTION REQUIREMENTS. The Contractor shall coordinate his activities and cooperate with other contractors as to not delay or interfere with their work.

3.9.6.10 Temporary Culverts

Temporary culverts shall be provided as required for road drainage. Temporary culverts shall be corrugated metal pipe of adequate diameter. Exact locations of the temporary culverts shall be subject to approval by the Contracting Officer.

a. All culverts within the construction area, including the borrow areas, shall be maintained to provide unrestricted flow through the culverts. Culvert maintenance shall include debris cleaning, repair of failures, and extension of culverts due to road alterations. Culvert maintenance shall be performed by the Contractor at no additional cost to the Government.

3.9.7 Working Hours

The Contractor shall restrict all construction activities to the following schedule:

Monday thru Friday	6:30 a.m. to 7:00 p.m.
Saturday	8:00 a.m. to 7:00 p.m.

No work will be permitted on Sundays or Federal Holidays without the prior written approval from the Contracting Officer.

3.9.8 Construction Water

There are no known developed sources for water at or in the immediate vicinity of the project site. The Contractor shall be responsible for obtaining water for construction purposes at no additional cost to the Government.

3.9.9 Lighting

The Contractor shall provide a minimum of 5 foot-candle lighting intensity for all construction areas during the contract performance period.

3.9.10 Identification of Vehicles

All the Contractor's vehicles shall display suitable permanent identification.

3.9.11 Construction Method Observation

Any construction method, plant, or piece of equipment used on this contract shall not be considered proprietary, and can be inspected or photographed at any time by the Government, regulatory agencies, or any group approved by the Government.

3.9.12 Contractor's Equipment

The planned method of transportation and operation of cranes and other heavy equipment to be used in the performance of this contract shall be submitted for approval by the Contracting Officer. The plan shall include the type, size, loadings of equipment, the proposed transportation routes, and work areas to be used on the project.

3.10 PUBLIC SAFETY

Attention is directed to the CONTRACT CLAUSE: PERMITS AND RESPONSIBILITIES.

The Contractor shall provide temporary fencing, barricades, and/or guards, as required, to provide protection in the interest of public safety. Whenever the contractor's operations create a condition hazardous to the public, he shall furnish at his own expense and without cost to the Government, such flagmen and guards as are necessary to give adequate warning to the public of any dangerous conditions to be encountered and he shall furnish, erect, or maintain such fences, barricades, lights, signs and other devices as are necessary to prevent accidents and avoid damage or injury to the public. Flagmen and guards, while on duty and assigned to give warning and safety devices shall conform to applicable city, county, and state requirements. Should the Contractor appear to be neglectful or negligent in furnishing adequate warning and protection measures, the Contracting Officer may direct attention to the existence of a hazard and the necessary warning and protective measures shall be furnished and installed by the Contractor without additional cost to the Government. Should the Contracting Officer point out the inadequacy of warning and protective measures, such action of the Contracting Officer shall not relieve the Contractor from any responsibility for public safety or abrogate his obligation to furnish and pay for those devices. The installation of any general illumination shall not relieve the Contractor of his responsibility for furnishing and maintaining any protective facility.

3.11 OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) STANDARDS

The OCCUPATIONAL SAFETY and HEALTH ACT (OSHA) STANDARDS for CONSTRUCTION (Title 29, Code of Federal Regulations Part 1926 as revised from time to time) and the Corps of Engineers General Safety and Health Requirements Manual, EM 385-1-1, are both applicable to this contract. The most stringent requirement of the two standards will be applicable.

3.11.1 Accident Reporting

In accordance with EM 385-1-1, the Contractor shall submit a written summary of worker's compensation claims which have been filled by worker's in connection with work on the project. The summary shall be submitted at the time when the work is approximately 50 percent complete and at project completion. The summary shall include all subcontractors. The Contractor's and subcontractor's compensation insurance carrier shall certify that the summaries are "correct and true".

3.12 PERMITS

3.12.1 General

Reference is made to the article of the contract entitled "Permits and Responsibilities", which obligates the Contractor to obtain all required licenses and permits.

3.12.2 Air Pollution Permit (APP)

The Contractor shall obtain an APP from the Clark County Health Department. For further information, contact Ms. Cynthia Mikes at telephone number (702) 383-1276.

3.12.3 National Pollutant Discharge Elimination System (NPDES) Permit

The Contractor shall obtain a NPDES permit from the United States Environmental Protection Agency (USEPA) under the Nation Wide Permit (NWP) program, which requires that a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and maintained on-site throughout the construction period. A copy of the plan will be submitted to the Contracting Officer. In accordance with the NWP, a minimum of two (2) days prior to the start of construction activities, the Contractor shall submit a Notice of Intent (NOI) with fees to the Nevada Division of USEPA. The NOI shall be submitted on the standard EPA Form 3510-6 (8-92), and copies shall be provided to the Contracting Officer. For further information, contact Mr. Robb Saunders at telephone number (702) 687-4670.

3.13 NOTICE OF PARTNERSHIP

The Government intends to encourage the foundation of a cohesive partnership with the Contractor and its subcontractors. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are effective and efficient contract performance and intended to achieve completion within budget, on schedule, and in accordance with plans and specifications. This partnership would be bilateral in makeup, and participation will be totally voluntary. Any cost associated with effectuating this partnership will be agreed to by both parties and will be shared equally with no change in contract price. To implement this partnership initiative it is anticipated that within 60 days of Notice to Proceed the Contractor's on-site project manager and the Government's Resident Engineer would attend a two day partnership development seminar/team building workshop together with the Contractor's key on-site staff and key Government personnel. Follow-up workshop of 1 to 2 days duration would be held periodically throughout the duration of the contract as agreed to by the Contractor and Government.

3.14 AS-BUILT DRAWINGS

3.14.1 General

The Contractor shall furnish 3 full size sets of as-built blue-line prints for use in preparation of as-built drawings by the Government. The as-built prints shall be a record of the construction as installed and completed by the Contractor. They shall include all the information shown on the contract set of drawings and a record of all deviations, modifications, or changes from those drawings, however minor, which were incorporated in the work, all additional work not appearing on the contract drawings, and all changes which are made after final inspection of the contract work. In event the Contractor accomplishes additional work which changes the as-built conditions. The requirements for these additional drawings will be the same as for the as-built drawings included in the original submission. The prints shall show the following information, but

not be limited thereto:

- a. The location and description of any utility lines or other installations of any kind or description known to exist within the construction area. The location includes dimensions to permanent features.
- b. The location and dimensions of any changes within the building or structure.
- d. Correct grade or alignment of roads, structures, or utilities if any changes were made from contract plans.
- e. Correct elevations if changes were made in site grading.
- f. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.
- g. The topography and grades of all drainage installed or affected as a part of the project construction.
- h. All changes or modifications which results from the final inspection.

3.14.2 Options

Where contract drawings or specifications allow options, only the option selected for construction shall be shown on the as-built drawings.

3.14.3 Submittal to Contracting Officer for review and approval

Not later than two weeks after acceptance of the project by the Government, the Contractor shall deliver to the Contracting Officer 3 full size sets of blue-line prints marked up to depict as-built conditions. If upon review, the drawings are found to contain errors and/or omissions, they shall be returned to the Contractor for corrections. The Contractor shall complete the corrections and return the drawings to the Contracting Officer within ten (10) calendar days.

3.15 DISPOSAL SITES

3.15.1 Disposal Site

Excess satisfactory excavated natural material not utilized as part of the construction shall be hauled, placed and compacted in disposal site per lines and grades shown on drawing Sheet 30. Materials characterized as unsatisfactory soil in accordance with Section 02200 EXCAVATION shall become the property of the Contractor and shall be removed from the project site.

3.16 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (ER 415-1-15, 31 OCT 89)

a. This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the CONTRACT CLAUSE: DEFAULT (FIXED PRICE CONSTRUCTION). In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

b. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DAYS
 Work Days Based on five (5) Day Work Week

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
6	2	2	1	1	0	2	2	1	1	1	3	1	3

c. Upon acknowledgement of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in subparagraph b, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the CONTRACT CLAUSE: DEFAULT (FIXED PRICE CONSTRUCTION).

3.17 REQUIRED INSURANCE

The Contractor shall procure and obtain during the entire period of his performance under this contract the following minimum insurance:

a. General Public Liability insurance for bodily injury and property

damage with minimum limits of \$1,000,000 combined single limit per occurrence and \$1,000,000 annual aggregate for bodily injury to or death, personal injury and property damage.

b. Automobile Liability insurance for bodily injury and property damage with minimum limits of \$1,000,000 combined single limit for each occurrence and \$1,000,000 annual aggregate.

c. Either Workman's Compensation or Employer's Liability insurance with a minimum limit of \$1,000,000.

In every case the insurance coverage shall amount to at least the limits stated above. However, where the Financial Responsibility Compulsory Insurance Law of the State in which the installation is located requires higher limits, the Automobile Liability Insurance Policy should provide coverage of at least those limits. County of Clark, a political subdivision of the state of Nevada, and Clark County Regional Flood Control District shall be named as additional insured parties and all policies issued in performance of work under this contract.

The Contractor does hereby agree to indemnify, defend, and save harmless Clark County and Regional Flood Control District from loss, damage, liability, costs, or expense to the proportionate extent caused by the Contractor, his employees, agents, or consultants and/or consultants arising out of its performance of this contract, including, but not limited to the negligent acts, errors, omissions, or intentional misconduct of the Contractor, its employees, agents or consultants and/or subconsultants in connection with this contract.

Contractor further does hereby agree, as a precaution to the performance of any work under this contract and as a precaution to any obligation of Clark County to make any payment under this contract, to provide Clark County with a certificate and/or a certificate issued by the State Industrial Insurance System (SIIS) in accordance with Nevada Revised Statute 616.280. Contractor agrees to maintain required workers compensation throughout the entire term of the contract. If Contractor does not maintain coverage throughout the entire term of the contract, Contractor agrees that Owner may, at any time the coverage is not maintained by Contractor, order the Contractor to stop work, assess liquidated damages as defined herein, suspend the contract, or terminate the contract. For each six month period this contract is in effect, Contractor agrees, prior to the expiration of the six month period, make another written request to SIIS for the provisions of a certificate and notice of lapse in or nonpayment of coverage. If Contractor does not make the request or does not provide the certificate before the expiration of the six month period, Contractor agrees that owner may order the Contractor to stop work, suspend the contract or terminate the contract.

3.18 SPECIAL CONSTRUCTION REQUIREMENTS

The Contractor shall restrict his operation and adapt his construction schedule to accomodate the following:

3.18.1 PROJECT LIMITS

The Contractor's work, employee parking, operations, staging, equipment assembly and maintenance, and other on-site activities shall be restricted to actual areas of construction within the Project Limits. The Project Limits of the Lower Flamingo Diversion Channel are indicated on the drawings, and constitute the maximum limits of the construction area available for Contractor's operations. The Project Limits are generally defined by the Right-of-Way (ROW) and adjoining Temporary Construction Easements (TCE) as shown on the plans, unless designated otherwise (either in the plans, in these Specifications or by the Contracting Officer). The Contractor shall be solely responsible for obtaining agreements with and acquisition from adjacent land owners, when additional land or access points are required to supplement the Contractor's operations or staging needs. No appurtenances or other public access facilities (either temporary or permanent) shall be constructed beyond the Project Limits.

3.18.2 ORDER OF CHANNEL CONSTRUCTION

Any continuation of the Contractor's operations in and access to those areas following issuance of the Notice to Proceed for the adjacent contract shall be requested in writing, and shall include:

1. a detailed critical-path scheduling diagram of the activities proposed,
2. a projected date of completion, and
3. a proposed method of coordination between potentially conflicting contract operations.

This information shall be reviewed by the Contracting Officer and if deemed acceptable, shall be approved by the Contracting Officer otherwise interim completions and restrictions listed below shall remain in effect.

3.18.2.1 Storm Runoff

In consideration of the potential for high-volume storm runoff occurring during the period of time when existing runoff patterns are disrupted, but the channel is not yet in service, the order of construction needs to be set to avoid significant erosive damage to elements of the project and existing facilities downstream.

The Contractor shall make all practical efforts to:

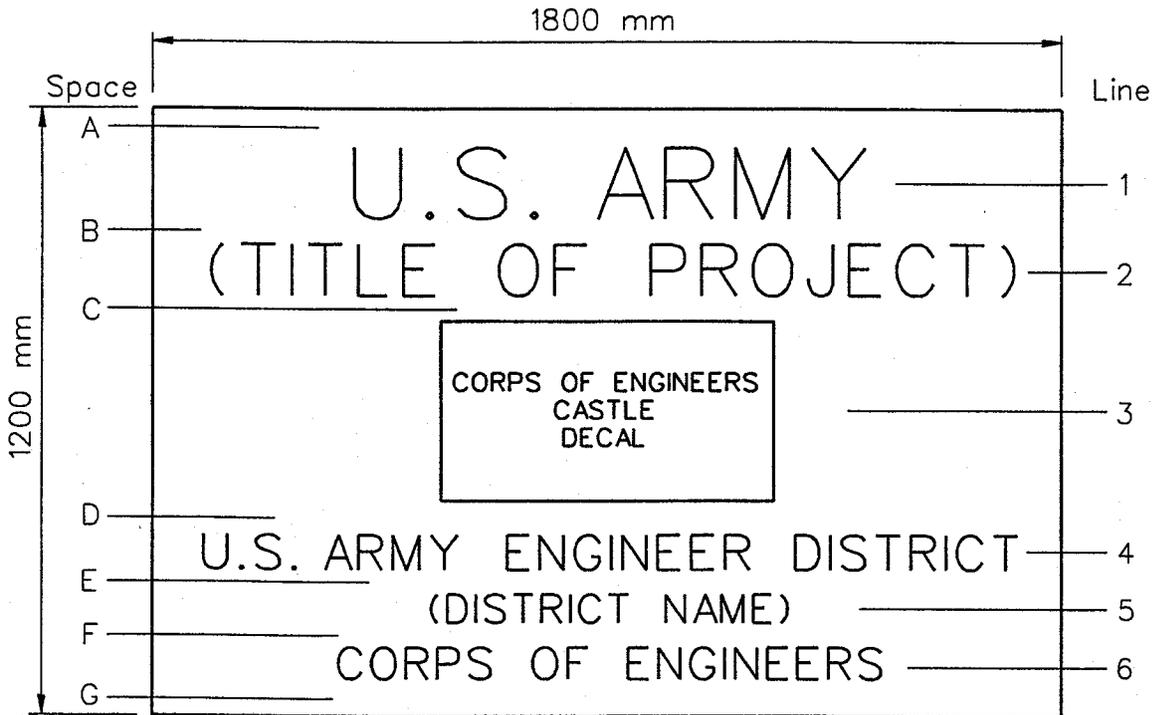
1. stage the construction of the channel from downstream to upstream (east to west), and
2. avoid long delays between excavation of the channel (and disruption of existing runoff patterns) and construction of the cast-in-place elements of the channel.

3.18.2.2 Construction RCB channel sections.

The four RCB channel sections on the Lower Flamingo Diversion Channel shall be completed within 210 calendar days from the Lower Flamingo Diversion

Channel notice to proceed. The RCB channel sections are located at Decatur Blvd. (Sta 14+57.095 to Sta 16+38.000), Russell Road (Sta 20+15.000 to Sta 20+82.000), Lindell Road (Sta 25+90.000 to Sta 26+35.000) and Jones Boulevard (Sta 33+63.526 to Sta 32+94.570). Priority on these items of work is necessary to meet Real Estate commitments and to restore normal traffic to these areas without delay.

-- End of Section --



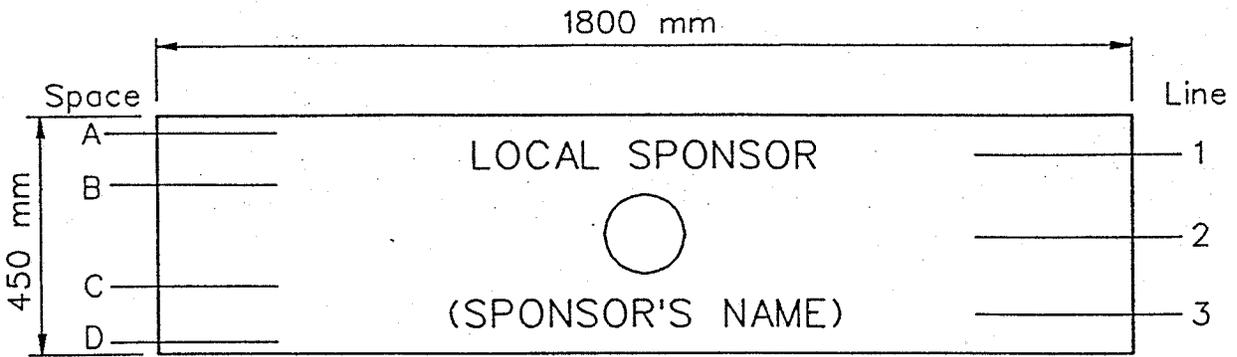
<u>Space</u>	<u>Height</u>	<u>Line</u>	<u>Description</u>	<u>Letter Height</u>	<u>Stroke</u>
A	75				
		1	U.S. ARMY	140	22
B	50				
		2	PROJECT NOMENCLATURE	100	16
C	50				
		3	CORPS OF ENGINEERS CASTLE (DECAL)	345	
D	70				
		4	U.S. ARMY ENGINEER DISTRICT	70	9
E	50				
		5	DISTRICT NAME	60	6
F	50				
		6	CORPS OF ENGINEERS	65	9
G	75				

Letter Color -- Black

PROJECT SIGN
(Army-Civil Works)

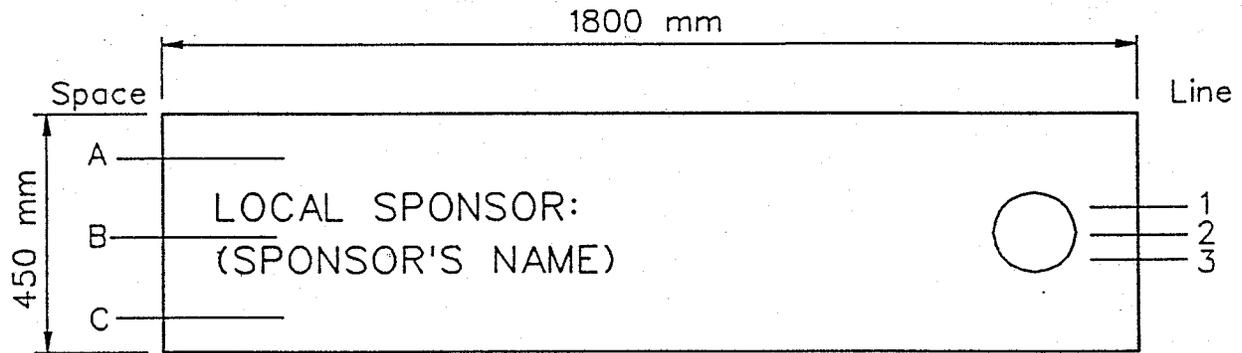
Figure 1
October 1996

All units are in millimeters.



<u>Space</u>	<u>Height</u>	<u>Line</u>	<u>Description</u>	<u>Letter Height</u>	<u>Stroke</u>
A	50	1	LOCAL SPONSOR	50	9
B	50	2	SPONSOR'S EMBLEM (DECAL)		
C	50	3	(SPONSOR'S NAME)	50	9
D	50				

- OR -

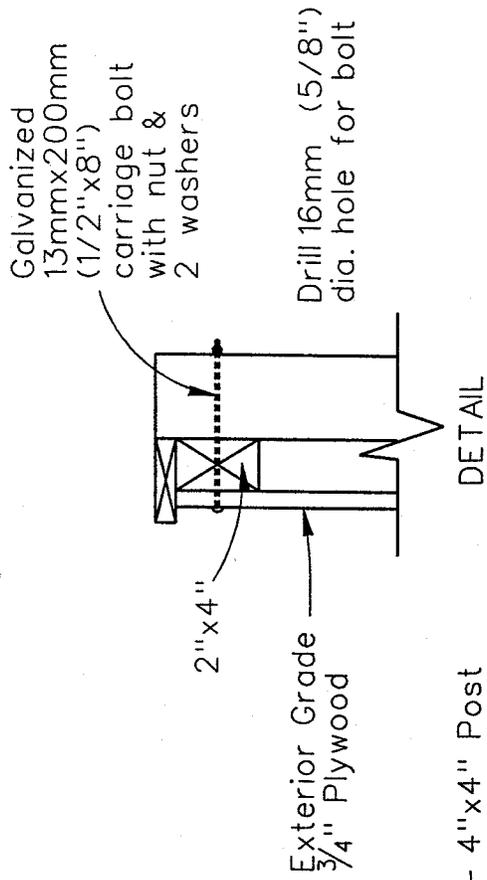


<u>Space</u>	<u>Height</u>	<u>Line</u>	<u>Description</u>	<u>Letter Height</u>	<u>Stroke</u>
A	150	1	LOCAL SPONSOR	50	9
B	50	2	SPONSOR'S EMBLEM (DECAL)		
C	150	3	(SPONSOR'S NAME)	50	9

Lettering Color -- Black

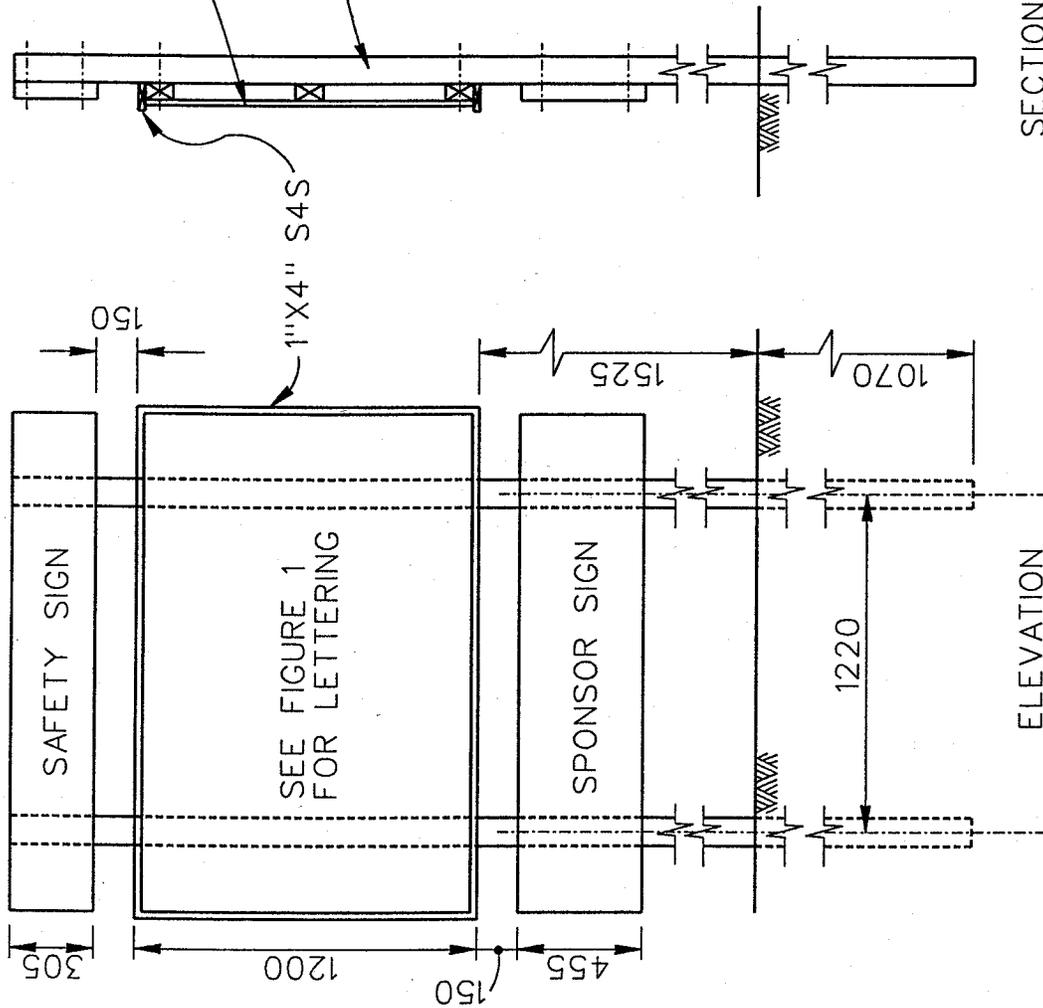
All units are in millimeters.

Figure 1A
October 1997



General Notes

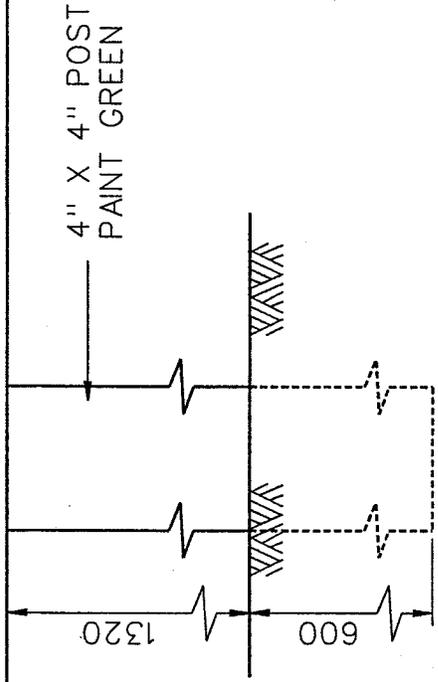
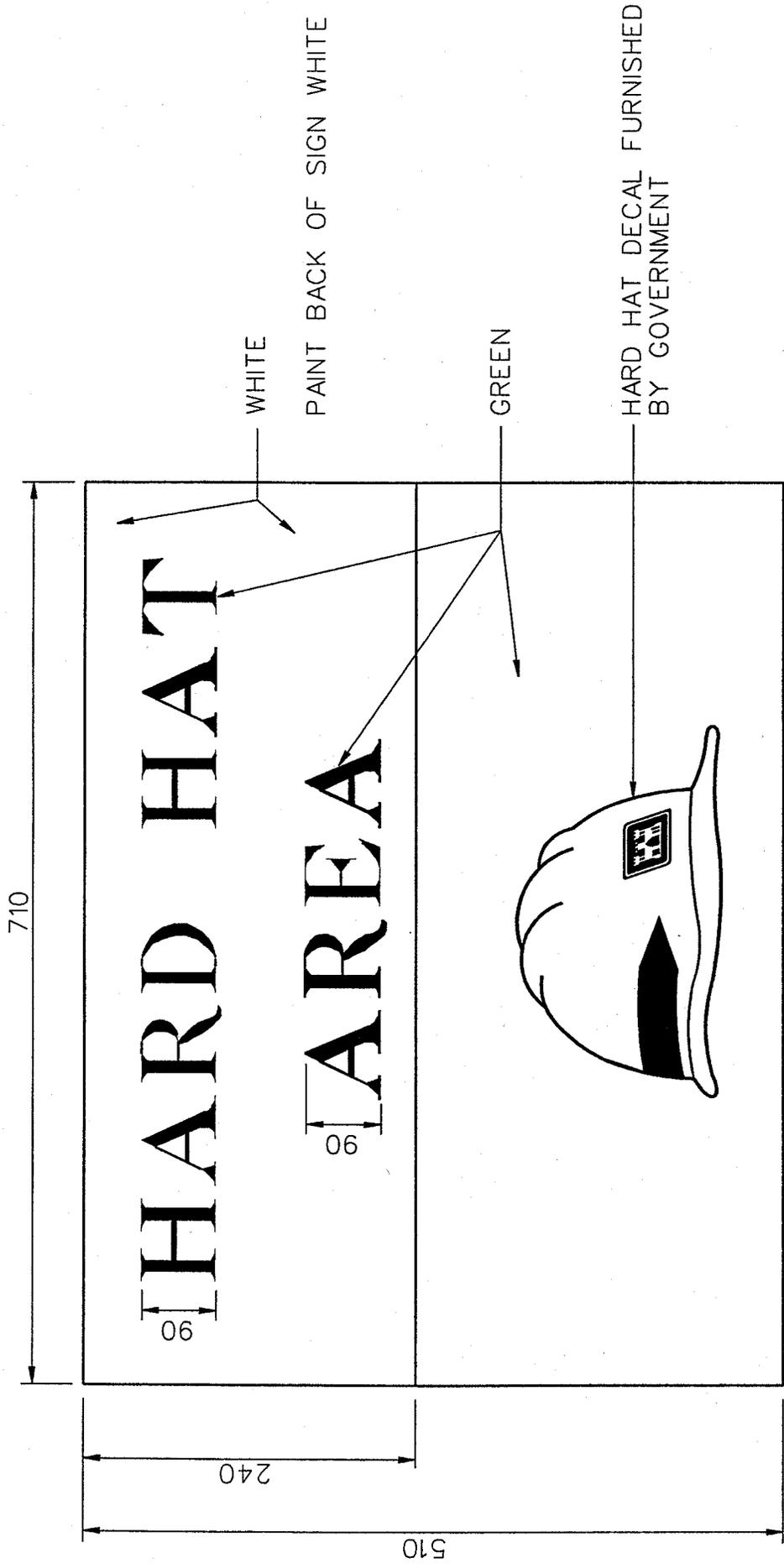
1. Lumber to be cut & formed accurately.
2. Secure 1"x4" & plywood with 6d finish nails at not less than 305mm(12") O.C.
3. All exposed nails to be set & holes filled with putty.
4. Sign to be set in good solid ground & backfill carefully tamped into place.
5. Where necessary, posts shall be braced to provide a solid installation.



SIGN DETAILS

Figure 2
October 1996

All units are in millimeters unless otherwise indicated.

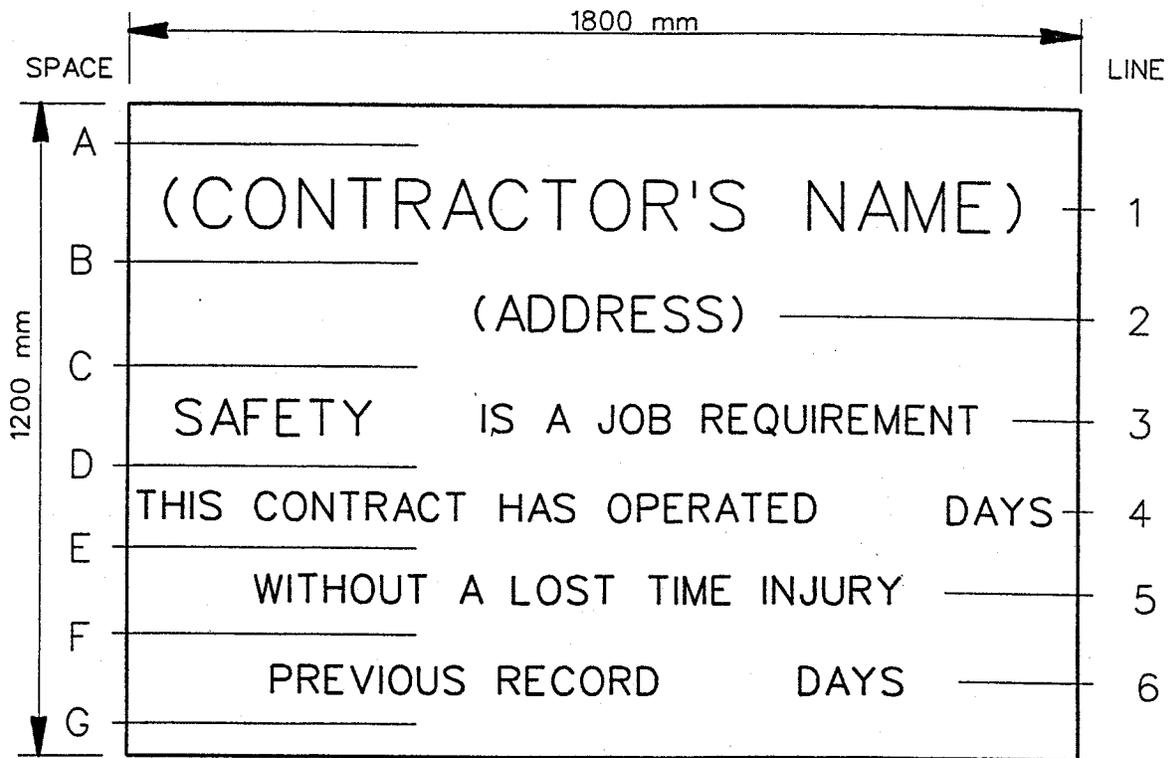


General Notes

1. Green & white paint shall be opaque glossy as specified in ANSI Z53.1
2. Bolt sign to post with two 15 mm dia. carriage bolts.

Figure 3
October 1996

All units are in millimeters unless otherwise indicated.



<u>SPACE</u>	<u>HEIGHT</u>	<u>LINE</u>	<u>DESCRIPTION</u>	<u>LETTER HEIGHT</u>
A	125			
B	75	1	CONTRATOR'S NAME	125
C	150	2	ADDRESS	75
D	75	3	SAFETY IS A JOB REQUIREMENT	115 & 75
E	75	4	ALL LETTERING	75
F	75	5	ALL LETTERING	75
G	125	6	ALL LETTERING	75

Notes

Lettering shall be black No. 27038 standard 595.
 Sign shall be installed in the same manner
 as the Project Sign.

**SAFETY SIGN
 STANDARD DETAIL**

All units are in millimeters.

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01270

MEASUREMENT AND PAYMENT

- PART 1 GENERAL
 - 1.1 CONTRACT PRICE AND PAYMENT
 - 1.2 LUMP SUM PAYMENT ITEMS
 - 1.3 UNIT PRICE PAYMENT ITEMS
- PART 2 TRAFFIC CONTROL.
- PART 3 DIVERSION AND CONTROL OF WATER.
- PART 4 CLEAR SITE AND REMOVE OBSTRUCTIONS.
- PART 5 EXCAVATION.
 - 5.1 Measurement.
 - 5.2 Payment.
 - 5.3 Unsatisfactory Soils
 - 5.4 Excavation for Structures
 - 5.5 Excavation for Utilities
 - 5.6 Shoring
- PART 6 FILLS.
 - 6.1 Measurement.
 - 6.2 Payment.
 - 6.2.1 Compacted Fill, Channel.
 - 6.2.2 Compacted Fill, Disposal Site.
 - 6.2.3 Fill for Structures.
 - 6.2.4 Trenches.
 - 6.2.5 Subgrade Preparation.
- PART 7 CONCRETE.
 - 7.1 Measurement.
 - 7.2 Payment.
 - 7.2.1 Concrete, Invert Slab.
 - 7.2.2 Concrete, Side Slope.
 - 7.2.3 Concrete, Cut-off Wall.

- 7.2.4 Concrete, Walls.
- 7.2.5 Concrete, Transition
- 7.2.6 Concrete Overflows

- PART 8 TRAPEZOIDAL TO RECTANGULAR TRANSITION, STA. 11+20.000 to STA. 11+80.000

- PART 9 BOX CULVERT, STA. 14+57.095 to STA. 16+38.000

- PART 10 INVERT ACCESS RAMP, STA. 18+14.686 to STA. 18+77.224

- PART 11 BOX CULVERT, STA. 20+15.000 STA. 20+82.000

- PART 12 BOX CULVERT, STA. 25+90 to STA. 26+35

- PART 13 INVERT ACCESS RAMP, STA. 31+30.000 to STA. 31+82.773

- PART 14 CONFLUENCE/INVERT TRANSITION, STA. 32+63.570 to STA. 32+94.570

- PART 15 BOX CULVERT, STA. 33+63.526 to STA. 34+13.632

- PART 16 JONES LATERAL, STA 5+88.425 to STA 7+32.923

- PART 17 REINFORCING STEEL
 - 17.1 Measurement.
 - 17.2 Payment.

- PART 18 AGGREGATE BASE COURSE.
 - 18.1 Measurement.
 - 18.2 Payment.

- PART 19 ASPHALT CONCRETE PAVEMENT.
 - 19.1 Measurement.
 - 19.2 Payment.

- PART 20 STONE PROTECTION
 - 20.1 Measurement
 - 20.2 Payment

- PART 21 GROUTED STONE

- 21.1 Measurement
- 21.2 Payment

- PART 22 WEEPHOLE SYSTEM.

- PART 23 INVERT ACCESS LADDERS.

- PART 24 SIDE DRAINS

- PART 25 ROAD DETOURS @ DECATUR BLVD.

- PART 26 UTILITIES @ DECATUR BLVD.

- PART 27 ROAD DETOURS @ LINDELL BLVD.

- PART 28 UTILITIES @ LINDELL BLVD.

- PART 29 ROAD DETOURS @ JONES BLVD.

- PART 30 UTILITIES @ JONES BLVD.

- PART 31 UTILITIES @ RUSSELL ROAD

- PART 32 CHAIN LINK FENCING.
 - 32.1 Measurement.
 - 32.2 Payment.

- PART 33 PIPE SAFETY HAND RAIL

- PART 34 DOUBLE SWING GATES.
 - 34.1 Measurement
 - 34.2 Payment.

- PART 35 SOIL STABILIZER
 - 35.1 Measurement.
 - 35.2 Payment

-- End of Section Table of Contents --

SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 CONTRACT PRICE AND PAYMENT

The contract price and payment shall constitute full compensation as stated in the Contract Clause, CONTRACT PRICES - BIDDING SCHEDULES, for completion of the work. No separate payment will be made for any material or work covered in this specification, but not specifically mentioned as part of a bid item, and all costs into which the work pertains or considered incidental to all bid items. As stated on Contract Clause, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, the word "provided" shall be understood to mean "furnished and installed" when used in this section or elsewhere in the Technical sections.

1.2 LUMP SUM PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

1.3 UNIT PRICE PAYMENT ITEMS

Payment items for the work of this contract on which the contract unit price payments will be made are listed in the BIDDING SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items.

PART 2 TRAFFIC CONTROL.

Payment for traffic control will be made at the applicable contract price, which payment shall constitute full compensation for traffic control including but not limited to earthwork and grading, construction and removal of temporary roadways; providing safety barriers; providing traffic warning and control signs and lighting; stripping; flag men as required.

PART 3 DIVERSION AND CONTROL OF WATER.

Payment for Diversion and Control of Water will be made at the applicable contract price, which payment shall constitute full compensation for maintaining the work area in a dry condition.

PART 4 CLEAR SITE AND REMOVE OBSTRUCTIONS.

Payment shall include all costs for clearing, removal, replacement, and restoration work (except work by others) including all existing obstructions within the construction work area. Except as otherwise specified, payment for clearing and removal work includes applicable earthwork; filling holes; removal of abandoned utility lines; removal of existing surface trash and debris, including trees and vegetation, and grubbing from within the Channel right-of-way and temporary construction easement; protection, replacement or restoration of existing structures and features indicated and disposal of all materials. Payment for Clear Site and Remove Obstructions will be made at the applicable contract price, which payment shall constitute full compensation for clearing, obstruction removal, and protection work, complete.

PART 5 EXCAVATION.

5.1 Measurement.

A survey of the site shall be made prior to commencement of work, and all measurements will be based on this survey without regard to any changes in the site that may be made between the excavation lines and grades indicated on the drawings or staked in the field and the ground surfaces as indicated by the above mentioned survey. The quantity of directed excavation necessary for the removal of unsatisfactory foundation material as specified shall be included in the measurement of the excavation where the unsuitable soils are encountered. Quantities will be computed in cubic meters by the average end area method and the planimeter will be considered a precise instrument for measurement of plotted cross sections. The total quantity of excavated material for which payment will be made will be the theoretical quantity between the ground surface as determined by a survey and the grade and slope of the theoretical cross sections indicated. No allowance will be made for overdepth excavation or for the removal of any material outside the required slope lines. All excavation outside of excavation lines shown on the drawings will be considered as being for the convenience of the Contractor.

5.2 Payment.

Payment will be made for costs associated with excavation for the channel at the applicable contract price, which payment shall constitute full compensation for excavating the channel, and other areas as indicated on the drawings, including shoring, rock removal, and cemented alluvium excavation; shaping and trimming of areas to receive concrete; crushing or otherwise processing, loading, stockpiling, hauling, and placing suitable materials for compacted fill; Including crushing/processing, loading, hauling, placing excess satisfactory excavated materials at disposal site shown on drawing sheet 30. Payment will not be included for excavation

(including shoring) outside the excavation limits indicated on the drawings or staked in the field, and other excavation requirements for which separate payments are provided.

5.3 Unsatisfactory Soils

No separate payment will be made for the excavation, hauling, and disposal of unsatisfactory soils. When such excavation is directed, payment therefore will be included in the applicable contract price for the items of work under which the unsuitable soils are encountered. When there is no applicable contract item an adjustment will be made.

5.4 Excavation for Structures

No separate payment will be made for excavation for structures. All costs therefore shall be included in the applicable contract item to which the work applies.

5.5 Excavation for Utilities

No separate payment will be made for excavation for utilities. All costs therefore shall be included in the applicable contract item to which the work applies.

5.6 Shoring

When shoring is indicated or directed for items for which separate payment is made, payment will be included in the applicable contract price for the items of work under which the shoring is placed.

PART 6 FILLS.

6.1 Measurement.

Measurement for fills will be made between the excavation and structure lines and the fill limit lines, or between the ground lines and fill lines, as indicated or staked in the field. Quantities will be computed in cubic meters by the average end area method and the planimeter will be considered a precise instrument for measuring plotted cross sections.

6.2 Payment.

6.2.1 Compacted Fill, Channel.

Payment for compacted fill will be made at the applicable contract price, which payment shall constitute full compensation for shaping, grading, filling behind the channel walls including access ramps, over covered channels, and other areas shown on the drawings, and compacting the fill, complete. Payment will not be included for fills outside the fill limits indicated on the drawings or staked in the field, and other fill requirements for which separate payments are provided.

6.2.2 Compacted Fill, Disposal Site.

Payment for compacted fill disposal site will be made at the applicable contract price, which payment shall constitute full compensation for shaping, grading, and compacting the fill, complete. Payment will not be included for fills outside the fill limits indicated on the drawings or staked in the field, and other fill requirements for which separate payments are provided.

6.2.3 Fill for Structures.

No separate payment will be made for fill or backfill around structures. All such costs shall be included in the applicable contract prices for structure items to which the work applies.

6.2.4 Trenches.

No separate payment will be made for backfilling for utilities, side drains and confluences. All costs in connection therewith shall be included in the contract prices for items to which the work applies.

6.2.5 Subgrade Preparation.

No separate payment will be made for subgrade preparation and all costs in connection therewith shall be included in the contract prices for items to which the work applies.

PART 7 CONCRETE.

7.1 Measurement.

Measurement of concrete will be made on the basis of the actual volume, in cubic yards, of concrete within the pay lines of the concrete invert slab, walls, top slab, and slope protection as shown on the drawings. Measurement of concrete placed against the sides of any excavation without the use of intervening forms will be made only within the pay lines of the structures. No deductions will be made for rounded or beveled edges or space occupied by metalwork, nor voids or embedded items which are either less than 0.15 cubic meter in volume or one-tenth of square meter in cross section. Concrete placed in items of work other than those specifically mentioned above, and concrete wasted or used for the convenience of the Contractor will not be included in measurement for payment.

7.2 Payment.

Payment for the concrete items will be made at the applicable contract prices for the various items of the schedule, which payments shall constitute full compensation for labor, materials (except reinforcing steel for which separate payment is provided), joint sealant, forming, furnishing, curing, and for all equipment and tools to complete the concrete work. Embedded items shall be included in the cost of the concrete except when other payment is specifically provided. No payment will be made for concrete, as such, which is placed in structures for which payment is made on a lump sum basis.

7.2.1 Concrete, Invert Slab.

Payment for "concrete, invert slab" will be made at the applicable contract price, which shall constitute full compensation for all concrete placed for the invert slab of the channel, keys, and starter walls, complete.

7.2.2 Concrete, Side Slope.

Payment for "concrete, side slope" will be made at the applicable contract price, which payment shall constitute full compensation for all concrete placed in the trapezoidal channel side slopes, excluding the cut-off walls, complete.

7.2.3 Concrete, Cut-off Wall.

Payment for "concrete, cut-off wall" will be made at the applicable contract price, which payment shall constitute full compensation for all concrete placed in the cut-off walls, complete.

7.2.4 Concrete, Walls.

Payment for "concrete, walls" will be made at the applicable contract price, which payment shall constitute full compensation for all concrete placed above the starter walls in the vertical walls of the channel, the walls of the warped transition structures, complete.

7.2.5 Concrete, Transition

Payment for "concrete, transition" and all costs in connection therewith shall be included in the contract prices for "concrete walls" and "concrete, invert slab" or to the applicable contract price for which the work applies.

7.2.6 Concrete Overflows

Payment for the "concrete overflows" will be made at the applicable contract price, which payment shall constitute full compensation for all concrete placed for the concrete apron, including furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; furnishing and placing aggregate base course, complete except earthwork and grouted stone.

PART 8 TRAPEZOIDAL TO RECTANGULAR TRANSITION, STA. 11+20.000 to STA. 11+80.000

Payment for the "trapezoidal to rectangular transition" (Sta. 11+20.000 to Sta. 11+80.000) will be made at the applicable contract price, which payment shall constitute full compensation for the trapezoidal to rectangular transition except earthwork, complete, including furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete, and all incidentals, complete as shown on the drawings except for pipe safety hand rail, and chain link fencing.

PART 9 BOX CULVERT, STA. 14+57.095 to STA. 16+38.000

Payment for the "concrete box culvert (Sta. 14+57.095 to Sta. 16+38)" will be made at the applicable contract price, which payment shall constitute full compensation for the box culvert except earthwork, complete, including furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete, and all incidentals, complete as shown on the drawings except for pipe safety hand rail, and chain link fencing.

PART 10 INVERT ACCESS RAMP, STA. 18+14.686 to STA. 18+77.224

Payment for the "invert access ramp" also includes the adjacent open channel from Sta. 18+14.686 to Sta. 18+77.224. Payment will be made at the applicable contract price, which payment shall constitute full compensation for the invert access ramp and open channel except earthwork, complete, including furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; and all incidentals, complete as shown on the drawings except for pipe safety hand rail, chain link fencing, and double swing gate.

PART 11 BOX CULVERT, STA. 20+15.000 STA. 20+82.000

Payment for the "concrete box culvert (Sta. 20+15 to Sta. 20+82)" will be made at the applicable contract price, which payment shall constitute full compensation for the box culvert and head walls except earthwork, complete, including; furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; and all incidentals, complete as shown on the drawings except for pipe safety hand rail, chain link fencing, and double swing gate.

PART 12 BOX CULVERT, STA. 25+90 to STA. 26+35

Payment for the "concrete box culvert (Sta. 25+90 to Sta. 26+35)" will be made at the applicable contract price, which payment shall constitute full compensation for the box culvert except earthwork, complete, including , furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; and all incidentals, complete as shown on the drawings except for pipe safety hand rail, chain link fencing, and double swing gate.

PART 13 INVERT ACCESS RAMP, STA. 31+30.000 to STA. 31+82.773

Payment for the "invert access ramp" also includes the adjacent open channel from Sta. 31+30.000 to Sta. 31+82.773. Payment will be made at the applicable contract price, which payment shall constitute full compensation for the invert access ramp and open channel except earthwork, complete, including furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; and all incidentals, complete as shown on the drawings except for pipe safety hand rail, chain link fencing, and double swing gate.

PART 14 CONFLUENCE/INVERT TRANSITION, STA. 32+63.570 to STA. 32+94.570

Payment for the "confluence/invert transition" (Sta. 32+63.570 to Sta. 32+94.570) will be made at the applicable contract price, which payment shall constitute full compensation for the confluence/invert transition

except earthwork, complete, including furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; and all incidentals, complete as shown on the drawings except for pipe safety hand rail, chain link fencing and double swing gate.

PART 15 BOX CULVERT, STA. 33+63.526 to STA. 34+13.632

Payment for the concrete box culvert (Sta. 33+63.526 to Sta. 34+13.632) will be made at the applicable contract price, which payment shall constitute full compensation for the box culvert except earthwork, complete, including furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; and all incidentals, complete as shown on the drawings except for pipe safety hand rail, chain link fencing and double swing gate.

PART 16 JONES LATERAL, STA 5+88.425 to STA 7+32.923

Payment for Jones Boulevard lateral (Sta. 5+88.425 to Sta. 7+32.923) will be made at the applicable contract price, which payment shall constitute full compensation for the box culvert and stub-outs except earthwork, complete, including furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete; and all incidentals, complete as shown on the drawings.

PART 17 REINFORCING STEEL

17.1 Measurement.

Measurement of reinforcing steel in metric tonnes (1,000 kilograms) is limited to reinforcement in concrete structures paid for on a cubic meters basis. Measurement will be made of the lengths of bars actually placed in the completed work in accordance with the plans and specifications, approved bar schedules, or as directed. The measured lengths will be converted to weights for the bar numbers listed by the unit weights per linear foot contained in ASTI A 615. Steel in laps indicated on the drawings, in the specifications, or required by the Contracting Officer will be included in measurement for payment. No measurement will be made for the additional steel in laps which are authorized for the convenience of the Contractor. No measurement will be made of steel supports or spacers. All costs for furnishing and installing supports and spacers shall be included in the various structures requiring the reinforcement.

17.2 Payment.

Payment for reinforcing steel will be made at the applicable contract price, which payment shall constitute full compensation for furnishing and installing steel reinforcement, complete. No payment will be made for steel reinforcement which is placed in structures for which payment is made on a lump sum basis.

PART 18 AGGREGATE BASE COURSE.

18.1 Measurement.

Measurement of aggregate base course will be by the metric tonne (1,000 kilograms) of aggregate base course placed within the lines and grades indicated on the drawings.

18.2 Payment.

Payment for aggregate base course will be made at the applicable contract price which payment shall constitute full compensation for earthwork required for installation of aggregate base course, furnishing and placing the aggregate base course, complete, including subgrade preparation.

PART 19 ASPHALT CONCRETE PAVEMENT.

19.1 Measurement.

Measurement for asphalt concrete pavement will be by the metric tonne (1,000 kilograms) of asphalt concrete pavement placed within the lines and grades as indicated on the drawing.

19.2 Payment.

Payment for asphalt concrete pavement will be made at the applicable contract price which payment shall constitute full compensation for asphalt concrete pavement in place, complete including tack coat, prime coat and appurtenant work except for aggregate base course. No payment will be made for excessive thickness.

PART 20 STONE PROTECTION

20.1 Measurement

The quantity of stone to be paid for will be the number of metric tonne (1,000 kilograms), determined by scale weights, acceptably placed within the lines and grades shown on the drawings or directed by the Contracting Officer.

20.2 Payment

Payment for Stone Protection, of the various types will be made at the applicable contract unit prices, per metric tonne (1000 kg), which prices shall constitute full compensation for obtaining and placing the materials, complete.

PART 21 GROUTED STONE

21.1 Measurement

Measurement of grouted stone will be made by the cubic meters of grouted stone placed within the lines and grades indicated on the drawings or as directed.

21.2 Payment

Payment for grouted stone will be made at applicable contract price which

payment shall constitute full compensation for all materials, equipment and labor, including furnishing and placing stone, furnishing placing and curing grout and all incidentals, complete as shown on the drawings or directed.

PART 22 WEEPHOLE SYSTEM.

Payment for the weephole system will be made at the applicable contract price, which payment shall constitute full compensation for materials, and installation of the weephole system, complete including applicable earthwork, drain aggregate, geotextile, form openings and appurtenances, complete.

PART 23 INVERT ACCESS LADDERS.

Payment for "invert access ladders" will be made at the applicable contract lump sum price, and shall be considered full payment for fabrication, assembly fittings, finishing, paint, and markings. Installation and all equipment, labor and fittings needed for such shall be considered incidental to the contract price for the concrete item to which the ladder is attached.

PART 24 SIDE DRAINS

Payment for side drain and stub-outs will be made at the applicable contract price, which payment shall constitute full compensation for the side drain and stub-outs, complete, as shown on the drawings, including earthwork; furnishing and placing reinforcing steel; furnishing, placing, finishing and curing concrete for the side drain junction structures and inlet structure; furnishing and placing concrete pipe, fittings and end sections; furnishing and placing riprap; and placing temporary pipe barriers for stub-outs. The earthwork included shall be only that earthwork which is located outside the limits of earthwork for which other payment is provided and no payment will be made under this item for inlets, grates, concrete, and concrete pipe for which separate payment is provided.

PART 25 ROAD DETOURS @ DECATUR BLVD.

Payment for "detour roads @ Decatur Blvd." will be made at the applicable contract lump sum price, and shall be considered full payment for saw cutting, demolition, removal, hauling and disposal of asphaltic concrete; all required excavation and compacted fill; furnishing and placing the aggregate base course, complete, including subgrade preparation; asphalt concrete pavement in place, complete, including tack coat, prime coat and appurtenant work such as pavement markings; and traffic control and signage.

PART 26 UTILITIES @ DECATUR BLVD.

Payment for "utilities at Decatur Blvd." will be made at the applicable contract price, which payment shall constitute full compensation for relocations and protection of existing utilities, complete. The earthwork included shall be only that earthwork which is located outside the limits of earthwork for which other payment is provided.

PART 27 ROAD DETOURS @ LINDELL BLVD.

Payment for "detour roads @ Lindell Blvd." will be made at the applicable contract lump sum price, and shall be considered full payment for saw cutting, demolition, removal, hauling and disposal of asphaltic concrete; all required excavation and compacted fill; furnishing and placing the aggregate base course, complete, including subgrade preparation; asphalt concrete pavement in place, complete, including tack coat, prime coat and appurtenant work such as pavement markings; and traffic control and signage.

PART 28 UTILITIES @ LINDELL BLVD.

Payment for "utilities at Lindell Blvd." will be made at the applicable contract price, which payment shall constitute full compensation for relocations and protection of existing utilities, complete. The earthwork included shall be only that earthwork which is located outside the limits of earthwork for which other payment is provided.

PART 29 ROAD DETOURS @ JONES BLVD.

Payment for "detour roads @ Jones Blvd." will be made at the applicable contract lump sum price, and shall be considered full payment for saw cutting, demolition, removal, hauling and disposal of asphaltic concrete; all required excavation and compacted fill; furnishing and placing the aggregate base course, complete, including subgrade preparation; asphalt concrete pavement in place, complete, including tack coat, prime coat and appurtenant work such as pavement markings; and traffic control and signage.

PART 30 UTILITIES @ JONES BLVD.

Payment for "utilities at Jones Blvd." will be made at the applicable contract price, which payment shall constitute full compensation for relocations and protection of existing utilities, complete. The earthwork included shall be only that earthwork which is located outside the limits of earthwork for which other payment is provided.

PART 31 UTILITIES @ RUSSELL ROAD

Payment for "utilities at Russell Road" will be made at the applicable contract price, which payment shall constitute full compensation for relocations and protection of existing utilities, complete. The earthwork included shall be only that earthwork which is located outside the limits of earthwork for which other payment is provided.

PART 32 CHAIN LINK FENCING.

32.1 Measurement.

Measurement of chain link fencing will be by the linear meters of chain link fencing constructed as shown on the drawings.

32.2 Payment.

Payment for chain link fencing will be made at the applicable contract

price, which payment shall constitute full compensation for chain link fencing, including posts with caps, rail, chain link fabric, stretcher bars, tension bands, wire ties, truss wire, sleeves, grout, grounding, and all incidentals, complete as shown on the drawings.

PART 33 PIPE SAFETY HAND RAIL

Payment for "PIPE SAFETY HAND RAIL" will be made at the applicable contract price which payment shall constitute full compensation for the pipe safety hand rail, including pipe railing and post, sleeves, coil chain gates, fabrication, grout or dry pack, grounding, and all incidentals, complete.

PART 34 DOUBLE SWING GATES.

34.1 Measurement

Measurement of double swing gates will be the number of double swing gates acceptably installed.

34.2 Payment.

Payment for double swing gate will be made at the applicable contract price, which payment shall constitute full compensation for fabricating and installing the double swing gates, complete, including posts with caps, chain link fabric, frame members, tension bands, truss rods, stretcher bars, wire ties, truss wire, sleeves, hinges, grout, and all incidentals, complete, as shown on the drawings.

PART 35 SOIL STABILIZER

35.1 Measurement.

Measurement of "soil stabilizer" will be made on the basis of the actual area in square meters of exposed excavation and fill surfaces in the construction areas treated with soil stabilizer as indicated or directed.

35.2 Payment

Payment for "soil stabilizer" will be at the applicable contract price, which payment shall constitute full compensation for the soil stabilizer including materials, processing, hauling, and placing, complete in place.

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

- 1.1 SUBMITTAL IDENTIFICATION
- 1.2 SUBMITTAL CLASSIFICATION
 - 1.2.1 Government Approved
 - 1.2.2 Information Only
- 1.3 APPROVED SUBMITTALS
- 1.4 DISAPPROVED SUBMITTALS
- 1.5 WITHHOLDING OF PAYMENT

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

- 3.1 GENERAL
- 3.2 SUBMITTAL REGISTER (ENG FORM 4288)
- 3.3 SCHEDULING
- 3.4 TRANSMITTAL FORM (ENG FORM 4025-R)
- 3.5 SUBMITTAL PROCEDURE
 - 3.5.1 Procedures
 - 3.5.2 Deviations
- 3.6 CONTROL OF SUBMITTALS
- 3.7 GOVERNMENT APPROVED SUBMITTALS
- 3.8 INFORMATION ONLY SUBMITTALS
- 3.9 STAMPS

-- End of Section Table of Contents --

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUBMITTAL IDENTIFICATION

Submittals required are identified by SD numbers as follows:

SD-01 Data

SD-04 Drawings

SD-06 Instructions

SD-08 Statements

SD-09 Reports

SD-13 Certificates

SD-14 Samples

SD-18 Records

1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.2.1 Government Approved

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 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.

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 which may exist, as the Contractor under the Contractor Quality

Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, 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 given 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.

PART 2 PRODUCTS (Not Applicable)

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 submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) System Manager and each item shall be stamped, signed, and dated by the CQC System Manager 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)

At the end of this section is one set of ENG Form 4288 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 Contractor will also be given the submittal register as a diskette containing the computerized ENG Form 4288 and instructions on the use of the diskette. Columns "d" through "r" have been completed by the Government; the Contractor shall complete columns "a" and "s" through "u" and submit the forms (hard copy plus associated electronic file) to the Contracting Officer for approval within 2 calendar days after Notice to Proceed. The Contractor shall keep this diskette up-to-date and shall submit it to the Government together with the monthly payment request. 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.

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. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

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 both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. 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.

3.5 SUBMITTAL PROCEDURE

Submittals shall be made as follows:

3.5.1 Procedures

The Contractor shall complete ENG form 4025-R, "Transmittal of Shop Drawings, Equipment Data, Material Samples, or Manufacturer's Certification of Compliance" with each set of shop drawings, certificates, equipment data of samples submitted. Blank ENG Form 4025-R will be furnished by the Contracting Officer on request. Six (6) copies of each submittal will be required

3.5.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 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 his 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. Four copies of the submittal will be retained by the Contracting Officer and two copies of the submittal will be returned to the Contractor.

3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

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 --

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE <i>(Read instructions on the reverse side prior to initiating this form)</i>	DATE	TRANSMITTAL NO.
---	------	-----------------

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS *(This section will be initiated by the contractor)*

TO:	FROM:	CONTRACT NO.	CHECK ONE: <input type="checkbox"/> THIS IS A NEW TRANSMITTAL <input type="checkbox"/> THIS IS A RESUBMITTAL OF TRANSMITTAL _____
-----	-------	--------------	---

SPECIFICATION SEC. NO. <i>(Cover only one section with each transmittal)</i>	PROJECT TITLE AND LOCATION	CHECK ONE: THIS TRANSMITTAL IS FOR <input type="checkbox"/> FIO <input type="checkbox"/> GOV'T. APPROVAL
--	----------------------------	--

ITEM NO. <i>a.</i>	DESCRIPTION OF ITEM SUBMITTED <i>(Type size, model number/etc.)</i>	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. <i>(See Instruction no. 8)</i> <i>c.</i>	NO. OF COPIES <i>d.</i>	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE <i>g.</i>	VARIATION <i>(See Instruction No. 6)</i> <i>h.</i>	FOR CE USE CODE <i>i.</i>
				SPEC. PARA. NO. <i>e.</i>	DRAWING SHEET NO. <i>f.</i>			

REMARKS	I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as other wise stated. <div style="text-align: right; border-top: 1px solid black; width: 100%;">NAME AND SIGNATURE OF CONTRACTOR</div>
---------	--

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED <i>(List by Item No.)</i>	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE
---	--	------

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.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS 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 TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01351

SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST)

PART 1 GENERAL

- 1.1 REFERENCES
- 1.2 DESCRIPTION OF WORK
- 1.3 REGULATORY REQUIREMENTS
- 1.4 PRECONSTRUCTION SAFETY CONFERENCE
- 1.5 SAFETY AND HEALTH PROGRAM
- 1.6 SITE SAFETY AND HEALTH PLAN
 - 1.6.1 Preparation and Implementation
 - 1.6.2 Acceptance and Modifications
 - 1.6.3 Availability
 - 1.6.4 Elements
- 1.7 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION
 - 1.7.1 Project/Site Conditions
 - 1.7.2 Plan Requirements
- 1.8 HAZARD/RISK ANALYSIS
 - 1.8.1 Site Tasks and Operations (Workplan)
 - 1.8.2 Hazards
 - 1.8.2.1 Safety Hazards
- 1.9 ACTIVITY HAZARD ANALYSES
- 1.10 STAFF ORGANIZATION, QUALIFICATIONS, AND RESPONSIBILITIES
 - 1.10.1 Site Superintendent
 - 1.10.2 Site Safety and Health Officer (SSHO)
 - 1.10.2.1 Qualifications of SSHO
 - 1.10.2.2 Responsibilities of SSHO
 - 1.10.3 Persons Certified in First Aid and CPR
- 1.11 TRAINING
 - 1.11.1 Site-specific Training
 - 1.11.1.1 Initial Session (Pre-entry Briefing)
 - 1.11.1.2 Periodic Sessions
- 1.12 PERSONAL PROTECTIVE EQUIPMENT
 - 1.12.1 PPE Program
 - 1.12.2 Levels of Protection
- 1.13 HEAT AND COLD STRESS MONITORING
 - 1.13.1 Heat Stress
 - 1.13.2 Cold Stress
- 1.14 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES
- 1.15 INSPECTIONS
- 1.16 SAFETY AND HEALTH PHASE-OUT REPORT

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section Table of Contents --

SECTION 01351

SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST)

PART 1 GENERAL1.1 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.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction

ENGINEERING MANUALS (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual
------------	---

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 85-115	(1985) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities
----------------------	---

1.2 DESCRIPTION OF WORK

This section provides additional requirements for implementing the accident prevention provisions of EM 385-1-1, and specifies a Site Safety and Health Plan (SSHP) which shall satisfy the requirements for submission of a separate Accident Prevention Plan (APP) as required by EM 385-1-1. The requirements shall apply to work performed in both "contaminated" and "clean" areas.

1.3 REGULATORY REQUIREMENTS

Work performed under this contract shall comply with EM 385-1-1, applicable Federal, state, and local safety and occupational health laws and regulations. This includes, but is not limited to, Occupational Safety and Health Administration (OSHA) standards, 29 CFR 1910, especially Section .120, "Hazardous Waste Site Operations and Emergency Response" and 29 CFR 1926, especially Section .65, "Hazardous Waste Site Operations and Emergency Response". Matters of interpretation of standards shall be submitted to the appropriate administrative agency for resolution before

starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply.

1.4 PRECONSTRUCTION SAFETY CONFERENCE

A presonstruction safety conference shall be convened at least 15 days before work commences at the site. The conference shall include the Contracting Officer, Contractor, the construction district's Safety and Occupational Health Office representatives, the Contractor's Safety and Health Officer, and other appropriate members of the design and construction team.

1.5 SAFETY AND HEALTH PROGRAM

OSHA Standards 29 CFR 1910, Section .120 (b) and 29 CFR 1926, Section .65 (b) require employers to develop and implement a written Safety and Health Program for employees involved in hazardous waste operations. The site-specific program requirements of the OSHA Standards shall be integrated into one site-specific document, the Site Safety and Health Plan (SSHP). The SSHP shall interface with the employer's overall Safety and Health Program. Any portions of the overall Safety and Health Program that are referenced in the SSHP shall be included as appendices to the SSHP.

1.6 SITE SAFETY AND HEALTH PLAN

1.6.1 Preparation and Implementation

A Site Safety and Health Plan (SSHP) shall be prepared covering onsite work to be performed by the Contractor and all subcontractors. The Safety and Health Manager shall be responsible for the development, implementation and oversight of the SSHP. The SSHP shall establish, in detail, the protocols necessary for the anticipation, recognition, evaluation, and control of hazards associated with each task performed. The SSHP shall address site-specific safety and health requirements and procedures based upon site-specific conditions. The level of detail provided in the SSHP shall be tailored to the type of work, complexity of operations to be performed, and hazards anticipated. Details about some activities may not be available when the initial SSHP is prepared and submitted. Therefore, the SSHP shall address, in as much detail as possible, anticipated tasks, their related hazards and anticipated control measures. Additional details shall be included in the activity hazard analyses as described in paragraph 1.9, ACTIVITY HAZARD ANALYSES.

1.6.2 Acceptance and Modifications

Prior to submittal, the SSHP shall be signed and dated by the Safety and Health Manager and the Site Superintendent. The SSHP shall be submitted for review 15 days prior to the Preconstruction Safety Conference. Deficiencies in the SSHP will be discussed at the preconstruction safety conference, and the SSHP shall be revised to correct the deficiencies and resubmitted for acceptance. Onsite work shall not begin until the plan has been accepted. A copy of the written SSHP shall be maintained onsite. As work proceeds, the SSHP shall be adapted to new situations and new

conditions. Changes and modifications to the accepted SSHP shall be made with the knowledge and concurrence of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer. Should any unforeseen hazard become evident during the performance of the work, the Site Safety and Health Officer (SSHO) shall bring such hazard to the attention of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer, both verbally and in writing, for resolution as soon as possible. In the interim, necessary action shall be taken to re-establish and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public, and the environment. Disregard for the provisions of this specification or the accepted SSHP shall be cause for stopping of work until the matter has been rectified.

1.6.3 Availability

The SSHP shall be made available in accordance with 29 CFR 1910, Section .120 (b)(1)(v) and 29 CFR 1926, Section .65 (b)(1)(v).

1.6.4 Elements

Topics required by 29 CFR 1910, Section .120 (b)(4) 29 CFR 1926, Section .65 (b)(4) and the Accident Prevention Plan as described in Appendix A of EM 385-1-1 and those described in this section shall be addressed in the SSHP. Where the use of a specific topic is not applicable to the project, the SSHP shall include a statement to justify its omission or reduced level of detail and establish that adequate consideration was given the topic.

1.7 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

1.7.1 Project/Site Conditions

Frequent surface trash and construction debris are present along the channel alignment, particularly in existing washes. Contractors are urged and expected to inspect the site where the work will be performed prior to bid opening. Accordingly, a site visit has been arranged and scheduled for this specific purpose. The date of the site visit is August 15, 2000 at 10:00 AM. Additional information concerning the site visit is available in Division 0, Bidding Requirements, Contract Forms, and Contract Conditions. See Section 100 in Division 0 for more information.

1.7.2 Plan Requirements

The SSHP shall include a site description and contamination characterization section that addresses the following elements:

- a. Description of site location, topography, size and past uses of the site.
- b. A list of contaminants which may present occupational health and safety hazards. This list shall be created by evaluating the analytical results in this section and by researching sources of information from past site investigation activities. [Chemical names, concentration ranges, media in which found, locations onsite, and estimated quantities/volumes to be impacted by site work shall be

included if known.] [Chemical names, radioisotopes, concentration ranges and strength of radiation fields and levels of radioactive contamination, media in which found, locations onsite, and estimated quantities/volumes to be impacted by site work shall be included if known.] The contamination characterization shall be reviewed and revised if new chemicals are identified as work progresses.

1.8 HAZARD/RISK ANALYSIS

The SSHP shall include a safety and health hazard/risk analysis for each site task and operation to be performed. The hazard/risk analysis shall provide information necessary for determining safety and health procedures, equipment, and training to protect onsite personnel, the environment, and the public. Available site information shall be reviewed when preparing the "Hazard/Risk Analysis" section of the SSHP. The following elements, at a minimum, shall be addressed.

1.8.1 Site Tasks and Operations (Workplan)

The SSHP shall include a comprehensive section that addresses the tasks and objectives of the site operations and the logistics and resources required to reach those tasks and objectives. Based on the type of remediation required, the following is a list of anticipated major site tasks and operations to be performed:

- Clearing and Grubbing
- Excavation
- Compaction
- Formwork
- Reinforcing Steel
- Concrete
- Road Detours
- Utilities

This is not a complete list of site tasks and operations; therefore, it shall be expanded and/or revised, during preparation of the SSHP as necessary.

1.8.2 Hazards

The following potential hazards may be encountered during site work. These are not complete lists; therefore, they shall be expanded and/or revised as necessary during preparation of the SSHP.

1.8.2.1 Safety Hazards

1.9 ACTIVITY HAZARD ANALYSES

Prior to beginning each major phase of work, an Activity Hazard Analysis shall be prepared by the Contractor performing that work and submitted for review and acceptance. The format shall be in accordance with EM 385-1-1, figure 1-1. A major phase of work is defined as an operation involving a type of work presenting hazards not experienced in previous operations or where a new subcontractor or work crew is to perform. The analysis shall define the activities to be performed and identify the sequence of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work shall not proceed on that phase until the activity hazard analysis has been accepted and a preparatory meeting has been conducted by the Contractor to discuss its contents with everyone engaged in the activities, including the government onsite representatives. The activity hazard analyses shall be continuously reviewed and when appropriate modified to address changing site conditions or operations, with the concurrence of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer. Activity hazard analyses shall be attached to and become a part of the SSHP.

1.10 STAFF ORGANIZATION, QUALIFICATIONS, AND RESPONSIBILITIES

An organizational structure shall be developed that sets forth lines of authority (chain of command), responsibilities, and communication procedures concerning site safety, health, and emergency response. This organizational structure shall cover management, supervisors and employees of the Contractor and subcontractors. The structure shall include the means for coordinating and controlling work activities of subcontractors and suppliers. The SSHP shall include a description of this organizational structure as well as qualifications and responsibilities of each of the following individuals. The Contractor shall obtain Contracting Officer's acceptance before replacing any member of the Safety and Health Staff. Requests shall include the names, qualifications, duties, and responsibilities of each proposed replacement.

1.10.1 Site Superintendent

A Site Superintendent, who has responsibility to implement the SSHP, the authority to direct work performed under this contract and verify compliance, shall be designated.

1.10.2 Site Safety and Health Officer (SSHO)

1.10.2.1 Qualifications of SSHO

An individual and one alternate shall be designated the Site Safety and Health Officer (SSHO). The name, qualifications (education and training summary and documentation), and work experience of the Site Safety and Health Officer and alternate shall be included in the SSHP. The SSHO shall have the following qualifications:

- a. A minimum of 2 years experience in implementing safety and health programs.

- b. Documented experience in construction techniques and construction safety procedures.
- c. Working knowledge of Federal and state occupational safety and health regulations.
- d. Specific training in personal and respiratory protective equipment program implementation, confined space program oversight.

1.10.2.2 Responsibilities of SSHO

The Site Safety and Health Officer shall:

- a. Assist and represent the Safety and Health Manager in onsite training and the day to day onsite implementation and enforcement of the accepted SSHP.
- b. Be assigned to the site on a full time basis for the duration of field activities. The SSHO shall have no duties other than Safety and Health related duties.
- c. Have authority to ensure site compliance with specified safety and health requirements, Federal, state and OSHA regulations and all aspects of the SSHP including, but not limited to, activity hazard analyses, site control, standard operating procedures used to minimize hazards, safe use of engineering controls, the emergency response plan, confined space entry procedures, spill containment program, and preparation of records by performing a daily safety and health inspection and documenting results on the Daily Safety Inspection Log.
- d. Have authority to stop work if unacceptable health or safety conditions exist, and take necessary action to re-establish and maintain safe working conditions.
- e. Consult with and coordinate any modifications to the SSHP with the Site Superintendent, and the Contracting Officer.
- f. Serve as a member of the Contractor's quality control staff on matters relating to safety and health.
- g. Conduct accident investigations and prepare accident reports.
- h. Review results of daily quality control inspections and document safety and health findings into the Daily Safety Inspection Log.
- i. In coordination with site management and the Safety and Health Manager, recommend corrective actions for identified deficiencies and oversee the corrective actions.

1.10.3 Persons Certified in First Aid and CPR

At least two persons who are currently certified in first aid and CPR by the American Red Cross or other approved agency shall be onsite at all

times during site operations. These persons may perform other duties but shall be immediately available to render first aid when needed.

1.11 TRAINING

Personnel shall receive training in accordance with the Contractor's written safety and health training program and 29 CFR 1910 Section .120, 29 CFR 1926 Section .65, and 29 CFR 1926 Section .21. The SSHP shall include a section describing training requirements.

1.11.1 Site-specific Training

Site-specific training sessions shall be documented in accordance with Section 01.B.03.b of EM 385-1-1.

1.11.1.1 Initial Session (Pre-entry Briefing)

Prior to commencement of onsite field activities, all site employees, including those assigned only to the Support Zone, shall attend a site-specific safety and health training session of at least 2 hours duration. This session shall be conducted by the Site Safety and Health Officer to ensure that all personnel are familiar with requirements and responsibilities for maintaining a safe and healthful work environment. Procedures and contents of the accepted SSHP and Sections 01.B.02 and 28.D.03 of EM 385-1-1 shall be thoroughly discussed. The Contracting Officer shall be notified at least 5 days prior to the initial site-specific training session so government personnel involved in the project may attend.

1.11.1.2 Periodic Sessions

Periodic onsite training shall be conducted by the Site Safety and Health Officer at least weekly for personnel assigned to work at the site during the following week. The training shall address safety and health procedures, work practices, any changes in the SSHP, activity hazard analyses, work tasks, or schedule; results of previous week's air monitoring, review of safety discrepancies and accidents. Should an operational change affecting onsite field work be made, a meeting prior to implementation of the change shall be convened to explain safety and health procedures. Site-specific training sessions for new personnel, visitors, and suppliers shall be conducted by the SSO.

1.12 PERSONAL PROTECTIVE EQUIPMENT

1.12.1 PPE Program

Onsite personnel shall be provided with appropriate personal protective equipment. Protective equipment and clothing shall be kept clean and well maintained. The PPE section of the SSHP shall include site-specific procedures to determine PPE program effectiveness and for onsite fit-testing of respirators, cleaning, maintenance, inspection, and storage of PPE.

1.12.2 Levels of Protection

The Safety and Health Manager shall establish appropriate levels of protection for each work activity based on review of historical site information, existing data, an evaluation of the potential for exposure (inhalation, dermal, ingestion, and injection) during each task, past air monitoring results, and a continuing safety and health monitoring program. The Safety and Health Manager shall also establish action levels for upgrade or downgrade in levels of PPE from the following specified minimum levels of protection. Protocols and the communication network for changing the level of protection shall be described in the SSHP. The PPE reassessment protocol shall address air monitoring results, potential for exposure, changes in site conditions, work phases, job tasks, weather, temperature extremes, individual medical considerations, etc.

1.13 HEAT AND COLD STRESS MONITORING

The Safety and Health Manager shall develop a heat stress and cold stress monitoring program for onsite activities. Details of the monitoring program, including schedules for work and rest, and physiological monitoring requirements, shall be described in the SSHP. Personnel shall be trained to recognize the symptoms of heat and cold stress. The SSHO and an alternate person shall be designated, in writing, to be responsible for the heat and cold stress monitoring program.

1.13.1 Heat Stress

Physiological monitoring shall commence when the ambient temperature is above 21.1 degrees C. Monitoring frequency shall increase as the ambient temperature increases or as slow recovery rates are observed. An adequate supply of cool drinking water shall be provided for the workers. NIOSH Pub No. 85-115 may be consulted for guidance in determining protocols for prevention of heat stress.

1.13.2 Cold Stress

To guard against cold injury, appropriate clothing and warm shelter for rest periods shall be provided. Procedures to monitor and avoid cold stress shall be followed in accordance with the current TLVs for Cold Stress as recommended in ACGIH Threshold Limits.

1.14 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES

An Emergency Response Plan, that meets the requirements of 29 CFR 1910 Section .120 (1) and 29 CFR 1926 Section .65 (1), shall be developed and implemented as a section of the SSHP. In the event of any emergency associated with remedial action, the Contractor shall, without delay, alert all onsite employees that there is an emergency situation; take action to remove or otherwise minimize the cause of the emergency; alert the Contracting Officer; and institute measures necessary to prevent repetition of the conditions or actions leading to, or resulting in, the emergency. Employees that are required to respond to hazardous emergency situations shall be trained in how to respond to such expected emergencies. The plan shall be rehearsed regularly as part of the overall training program for site operations. The plan shall be reviewed periodically and revised as

necessary to reflect new or changing site conditions or information. Copies of the accepted SSHP and revisions shall be provided to the affected local emergency response agencies. The following elements, as a minimum, shall be addressed in the plan:

- a. Pre-emergency planning. The local emergency response agencies shall be contacted and met with during preparation of the Emergency Response Plan. Agencies to be contacted include local fire, police, and rescue authorities with jurisdiction and nearby medical facilities that may be utilized for emergency treatment of injured personnel. At these meetings, the agencies shall be notified of upcoming site activities and potential emergency situations. The response agencies' capabilities shall be ascertained and written response commitments obtained. The Contractor shall ensure the Emergency Response Plan for the site is compatible and integrated with the disaster, fire and/or emergency response plans of local, state, and Federal agencies.
- b. Personnel roles, lines of authority, communications for emergencies.
- c. Emergency recognition and prevention.
- d. Site topography, layout, and prevailing weather conditions.
- e. Criteria and procedures for site evacuation (emergency alerting procedures, employee alarm system, emergency PPE and equipment, safe distances, places of refuge, evacuation routes, site security and control).
- f. Specific procedures for decontamination and medical treatment of injured personnel.
- g. Route maps to nearest prenotified medical facility. Site-support vehicles shall be equipped with maps. At the beginning of project operations, drivers of the support vehicles shall become familiar with the emergency route and the travel time required.
- h. Emergency alerting and response procedures including posted instructions and a list of names and telephone numbers of emergency contacts (physician, nearby medical facility, fire and police departments, ambulance service, Federal, state, and local environmental agencies; as well as Safety and Health Manager, the Site Superintendent, the Contracting Officer and/or their alternates).
- i. Criteria for initiating community alert program, contacts, and responsibilities.
- j. Procedures for reporting incidents to appropriate government agencies. In the event that an incident such as an explosion or fire, or a spill or release of toxic materials occurs during the course of the project, the appropriate government agencies shall be immediately notified. In addition, the Contracting Officer shall be verbally notified immediately and receive a written notification within 24 hours. The report shall include the following items:

- (1) Name, organization, telephone number, and location of the Contractor.
- (2) Name and title of the person(s) reporting.
- (3) Date and time of the incident.
- (4) Location of the incident, i.e., site location, facility name.
- (5) Brief summary of the incident giving pertinent details including type of operation ongoing at the time of the incident.
- (6) Cause of the incident, if known.
- (7) Casualties (fatalities, disabling injuries).
- (8) Details of any existing chemical hazard or contamination.
- (9) Estimated property damage, if applicable.
- (10) Nature of damage, effect on contract schedule.
- (11) Action taken to ensure safety and security.
- (12) Other damage or injuries sustained, public or private.

k. Procedures for critique of emergency responses and follow-up.

1.15 INSPECTIONS

The SSHO shall perform daily inspections of the jobsite and the work in progress to ensure compliance with EM 385-1-1, the Safety and Health Program, the SSHP and other occupational health and safety requirements of the contract, and to determine the effectiveness of the SSHP. Procedures for correcting deficiencies (including actions, timetable and responsibilities) shall be described in the SSHP. Follow-up inspections to ensure correction of deficiencies shall be conducted and documented. Daily safety inspection logs shall be used to document the inspections, noting safety and health deficiencies, deficiencies in the effectiveness of the SSHP, and corrective actions taken. The SSHO's Daily Inspection Logs shall be attached to and submitted with the Daily Quality Control reports. Each entry shall include the following: date, work area checked, employees present in work area, PPE and work equipment being used in each area, special safety and health issues and notes, and signature of preparer. In the event of an accident, the Contracting Officer shall be notified according to EM 385-1-1. Within 2 working days of any reportable accident, an Accident Report shall be completed on ENG Form 3394 and submitted.

1.16 SAFETY AND HEALTH PHASE-OUT REPORT

A Safety and Health Phase-Out Report shall be submitted within 10 working days following completion of the work, prior to final acceptance of the work. The following minimum information shall be included:

a. Summary of the overall performance of safety and health (accidents or incidents including near misses, unusual events, lessons learned, etc.).

b. Signature of Site Safety and Health Officer.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01354

ENVIRONMENTAL PROTECTION FOR CIVIL WORKS

PART 1 GENERAL

- 1.1 REFERENCES
- 1.2 DEFINITIONS
- 1.3 SUBMITTALS
- 1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS
 - 1.4.1 Protection of Features
 - 1.4.2 Permits
 - 1.4.3 Special Environmental Requirements
 - 1.4.4 Environmental Assessment of Contract Deviations
- 1.5 ENVIRONMENTAL PROTECTION PLAN
 - 1.5.1 List of Federal, State and Local Laws and Regulations
 - 1.5.2 Spill Control Plan
 - 1.5.3 Recycling and Waste Minimization Plan
 - 1.5.4 Contaminant Prevention Plan
 - 1.5.5 Environmental Monitoring

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

- 3.1 SPECIAL ENVIRONMENTAL PROTECTION REQUIREMENTS
 - 3.1.1 Threatened or Endangered Species Protection
 - 3.1.2 Tree Protection
 - 3.1.3 U.S. Department of Agriculture (USDA) Quarantined Considerations
 - 3.1.4 Commercial Borrow
 - 3.1.5 Soil Disposal Areas on Government Property
 - 3.1.6 Disposal of Solid Wastes
 - 3.1.7 Clearing Debris
 - 3.1.8 Disposal of Contractor Generated Hazardous Wastes
 - 3.1.9 Fuels and Lubricants
- 3.2 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES
 - 3.2.1 Discovered Historic, Archaeological, and Cultural Resources
- 3.3 PROTECTION OF WATER RESOURCES
 - 3.3.1 Wastewater
 - 3.3.2 Monitoring of Water Areas Affected by Construction Activities
- 3.4 PROTECTION OF AIR RESOURCES
 - 3.4.1 Particulates
 - 3.4.2 Engine Emissions
- 3.5 PROTECTION OF BIOLOGICAL RESOURCES

- 3.6 INSPECTION
- 3.7 RETENTION POND REMOVAL
- 3.8 MAINTENANCE OF POLLUTION CONTROL FACILITIES
- 3.9 TRAINING OF CONTRACTOR PERSONNEL

-- End of Section Table of Contents --

SECTION 01354

ENVIRONMENTAL PROTECTION FOR CIVIL WORKS

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.

CODE OF FEDERAL REGULATIONS (CFR)

40 CFR 261 Identification and Listing of Hazardous Waste

ENGINEERING MANUALS (EM)

EM 385-1-1 (1996) U.S. Army Corps on Engineers Safety and Health Requirements Manual

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 all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-08 Statements

Retention Pond Removal Plan; GA.

Submit plan detailing Contractor's procedures for testing and removal of retention pond sediment.

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. Safety and health documents and procedures for hazardous, toxic, and radioactive waste (HTRW) site activities and underground storage tank (UST) removal are specified in Section 01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST).

1.4.1 Protection of Features

This section supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984). 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, indicated specially on the drawings, in spite of interference which their preservation may cause to the Contractor's work under the 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 also comply with environmental commitments made by the Government.

1.4.3 Special Environmental Requirements

The contractor shall comply with the special environmental requirements listed in Table 10 at the end of this section. These special environmental requirements are an outgrowth of environmental commitments made by the Government during the project development.

1.4.4 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., proposed alternate borrow areas, disposal areas, staging areas, alternate access routes, etc.) could result in the requirement for the Government to reanalyze the project from an environmental standpoint. 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 20 calendar days of Notice of Award, the Contractor shall submit an Environmental Protection Plan for review and acceptance by the Contracting Officer. The Government will consider an interim plan for the first 30 days of operations. However, the Contractor shall furnish an acceptable final plan not later than 30 calendar days after receipt of the Notice to Proceed. 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 which 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 Federal, State and Local Laws and Regulations

The Contractor shall provide as part of the Environmental Protection Plan a list of all Federal, 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 1-800-424-8802) 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.

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 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 Applicable)

PART 3 EXECUTION

3.1 SPECIAL ENVIRONMENTAL PROTECTION REQUIREMENTS

3.1.1 Threatened or Endangered Species Protection

If during construction activities any threatened or endangered species (particularly the Desert Tortoise) are observed in or near the construction area, such observations shall be reported immediately to the Contracting Officer so that the appropriate authorities may be notified and a determination made as to what special disposition should be made. In no circumstance shall any employee directly handle any tortoise unless it is in imminent danger. The Contractor shall cease all activities that may result in an impact to or the destruction of these resources. The Contractor shall prevent his employees from trespassing on private property, removing, or otherwise disturbing any endangered species. The Contractor shall strictly adhere to the relevant commitments presented in Table 10 at the end of this section.

3.1.2 Tree Protection

No ropes, cables, or guys shall be fastened to or attached to any tree(s) 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 tree 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 drip line of trees shown on the drawings to be saved. No excavation or fill shall be permitted within the drip line of trees to be saved except as shown on the drawings.

3.1.3 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.

3.1.4 Commercial Borrow

Prior to bringing commercially obtained borrow material onsite, the Contractor shall provide the Contracting Officer with the location of the pit or pits, the names of the owners and operators, and the types and estimated quantities of materials to be obtained from each source.]

3.1.5 Soil Disposal Areas on Government Property

Soil disposal on Government property shall be made only in those areas designated on the contract drawings. Hazardous, toxic, and radiological wastes (HTRW) shall not be disposed of on Government property. Disposal operations shall be managed and controlled to prevent erosion of soil or sediment from entering nearby waters or wetlands. Disposal operations shall be developed and managed in accordance with the grading plan shown on the drawings or as approved by the Contracting Officer.

3.1.6 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 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 Government property and dispose in compliance with Federal, State, and local requirements.

3.1.7 Clearing Debris

Clearing debris is trees, tree stumps, tree trimmings, and shrubs, and 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 shall transport from Government property for proper disposal in compliance with Federal, State, and local requirements. 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 placed in the designated area on the drawings.

c. Demolition products shall be transported from Government property for proper disposal in compliance with Federal, State, and local requirements.

3.1.8 Disposal of Contractor Generated Hazardous Wastes

Hazardous wastes are wastes as defined in 40 CFR 261, and as defined by applicable State and local regulations. Hazardous waste generated by construction activities shall be removed from the work area and be disposed 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 Government property 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.

3.1.9 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 in accordance with Federal, State, and local laws and regulations.

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 [or Native Hawaiian] 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 his 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

Wastewater directly derived from construction activities shall not be discharged before being treated to remove pollutants. Wastewater shall be collected and placed in retention ponds so the suspended materials can settle or the water can evaporate in order to separate the pollutants from the water. See paragraph SETTLING POND REMOVAL for disposal procedures.

3.3.2 Monitoring of Water Areas Affected by Construction Activities

The Contractor shall perform discharge monitoring, inspections, stormwater sampling and testing, reporting, and record keeping as set forth in the permit conditions which are attached to this section.

3.4 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.

3.4.1 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, borrow areas, and all other work areas free from airborne dust which would cause a hazard or nuisance.

3.4.2 Engine Emissions

The Contractor shall maintain equipment to minimize release of fuel combustion emissions. The contractor shall comply with all air quality standards, including emissions, fuel use, and fuel consumption standards.

3.5 PROTECTION OF BIOLOGICAL RESOURCES

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

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 RETENTION POND REMOVAL

The Contractor shall develop a retention pond removal plan and provide it to the Contracting Officer 45 days prior to removal work. The plan shall address testing the sediment collected in the retention pond and the method of removal of the sediment. The plan shall comply with Federal, State, and local transport and disposal regulations. The Contractor shall remove and dispose of the retention pond sediment in accordance with the approved plan.

3.8 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.

3.9 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.

-- End of Section --

Table 10
ENVIRONMENTAL COMMITMENTS

SIGNIFICANT IMPACT	EIS REFERENCE	FEDERAL ENVIRONMENTAL COMPLIANCE	MITIGATION COMMITMENT	IMPLEMENTATION
Impacts to desert tortoise	Para 2.03	NEPA, Endangered Species Act	Payment of a Compensation Fee of \$550 per acre of permanent disturbance and \$220 per acre of temporary disturbance (40 percent of the assessment for permanent disturbance). This assessment would result in a compensation of \$401,340 for permanent disturbance and \$47,214 for temporary disturbance for a total of \$448,554.	Prior to the initiation of construction. Paid by Corps of Engineers.
Impacts to desert tortoise during pre construction and construction	Para 2.03	NEPA, Endangered Species Act	The Corps will designate an individual as a contact representative who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and coordination with the FWS.	Concurrent with pre construction and construction activities causing impacts.
			Any biologist supervising pre-construction and construction activity and/or moving tortoises or their eggs shall be a qualified tortoise biologist trained in the handling procedures specified in the Appendix A to the Biological Opinion (BO) issued by the FWS (Appendix D).	Concurrent with pre construction and construction activities causing impacts.

Table 10
ENVIRONMENTAL COMMITMENTS

SIGNIFICANT IMPACT	EIS REFERENCE	FEDERAL ENVIRONMENTAL COMPLIANCE	MITIGATION COMMITMENT	IMPLEMENTATION
Impacts to desert tortoise during pre construction and construction	Para 2.03	NEPA, Endangered Species Act	Prior to start of pre-construction and construction activities in any areas occupied by the desert tortoise, or in which tortoise habitat is found, all employees who will work in such areas will be informed, through an education program, developed by the Corps, of the occurrence of the desert tortoise in the project area, and of the Threatened status of the species. They will be advised of the definition of "take", of the potential for impacts to the tortoise, and of the potential penalties (up to \$25,000 in fines and 6 months in prison) for taking a Threatened species. They will also be informed of the mitigation measures to which the Corps has committed and the terms and conditions included in the Biological Opinion.	Concurrent with pre construction and construction activities causing impacts.
			The contents of the education program would be coordinated with the FWS prior to its implementation. The program will also be presented to all supervisory and maintenance personnel associated with activities in tortoise habitat, and private landowners, if any, who will be responsible for maintenance of facilities on their properties. All such persons will sign a statement indicating that they have completed the education program and understand fully its provisions and the specific measures, terms, and conditions included in the EIS and Biological Opinion.	Concurrent with pre construction and construction activities causing impacts.

Table 10
ENVIRONMENTAL COMMITMENTS

SIGNIFICANT IMPACT	EIS REFERENCE	FEDERAL ENVIRONMENTAL COMPLIANCE	MITIGATION COMMITMENT	IMPLEMENTATION
Impacts to desert tortoise during pre construction and construction	Para 2.03	NEPA, Endangered Species Act	<p>Within 60 days prior to initial brushing, grubbing, grading, or other construction activity, a thorough survey of the construction site, including areas outside the facility boundaries likely to be disturbed by construction activities, will be conducted by the qualified Biologist. All tortoises, including any eggs found, will be removed from the site no more than 60 days prior to the onset of construction. Alternatively, removal efforts may occur in concert with surveys of project areas if performed no more than 60 days prior to the onset of construction.</p>	<p>Concurrent with pre construction and construction activities causing impacts.</p>
			<p>Each burrow, whether showing evidence of activity or not, will be 1) either examined using a fiberoptic scope and, if a tortoise is present, excavated by hand to remove the tortoise, or (2) excavated by hand to remove any tortoise or eggs that may be present. Burrows or dens of other species that could be used by tortoises also will be treated in the same manner. Tortoises found in these areas shall be handled and moved out of the construction zone according to the protocol provided in Appendix A to the Biological Opinion. All burrows will be excavated under the supervision of the Biologist. Only the Biologist shall handle tortoises or tortoise eggs.</p>	<p>Concurrent with pre construction and construction activities causing impacts.</p>
			<p>Tortoises removed from the wild will be relocated as specified under the section on measures to minimize mortality of desert tortoises during transportation, handling, and care following removal from project sites, below.</p>	<p>Concurrent with construction activities causing impacts.</p>

Table 10
ENVIRONMENTAL COMMITMENTS

SIGNIFICANT IMPACT	EIS REFERENCE	FEDERAL ENVIRONMENTAL COMPLIANCE	MITIGATION COMMITMENT	IMPLEMENTATION
Impacts to desert tortoise during pre construction and construction	Para 2.03	NEPA, Endangered Species Act	<p>The Construction right-of-way for all primary channels and the lateral collector channel system will be inspected for tortoises and their burrows not more than one working day prior to any surface disturbing activities. The inspection will be conducted by a qualified tortoise biologist and will provide 100 percent coverage of the right-of-way. The area will be surveyed three times unless no tortoises are found on the second pass.</p>	<p>Concurrent with construction activities causing impacts.</p>
			<p>Tortoises found on all channel and lateral collector sites will be moved off the construction site for a distance of 300 to 1,000 feet and placed in the shade of a shrub, in a natural unoccupied burrow similar to the hibernaculum in which it was found, or in an artificially constructed burrow following the protocol provided in Appendix A to the Biological Assessment. Tortoises will not be placed on land not under the ownership of the Bureau of Land Management or the Flood Control District without the written permission of the landowner. If such permission is not obtained, the tortoise would be handled under the procedures outlined above.</p>	<p>Concurrent with construction activities causing impacts.</p>

Table 10
ENVIRONMENTAL COMMITMENTS

SIGNIFICANT IMPACT	EIS REFERENCE	FEDERAL ENVIRONMENTAL COMPLIANCE	MITIGATION COMMITMENT	IMPLEMENTATION
Impacts to desert tortoise during pre construction and construction	Para 2.03	NEPA, Endangered Species Act	<p>Tortoises showing symptoms of Upper Respiratory Tract Disease will be left in the wild. To minimize the risk of spreading the Upper Respiratory Tract Disease, each tortoise will be handled with a separate pair of disposable gloves. All materials used to handle or contain tortoises will be used once and then discarded or sterilized. Cardboard boxes used to hold tortoises will be purchased new, used once, and then discarded. Tortoises will be purposefully moved only by qualified tortoise biologists, solely for the purpose of moving them out of harm's way. If a suitable location is not found, tortoises will be disposed of as specified under the subparagraph on measures to minimize mortality of desert tortoises during transportation, handling, and care following removal from project sites, below.</p>	<p>Concurrent with construction activities causing impacts.</p>
			<p>All vehicle traffic during construction will be restricted to existing roadways and to areas that have been cleared of tortoises. Speed limits in undeveloped areas containing tortoise habitat will not exceed 10 miles per hour from March 1 to November 15 of any year, except in emergency situations involving human health and safety. Information will be provided to construction crews and other workers regarding areas where vehicular traffic is not allowed. The ground beneath any vehicle parked in areas occupied by the desert tortoise will be carefully searched for tortoises before the vehicle is moved. If a tortoise is found beneath a vehicle, then the Biologist will move it according to the protocol specified in Appendix A to the Biological Opinion.</p>	<p>Concurrent with construction activities causing impacts.</p>

Table 10
ENVIRONMENTAL COMMITMENTS

SIGNIFICANT IMPACT	EIS REFERENCE	FEDERAL ENVIRONMENTAL COMPLIANCE	MITIGATION COMMITMENT	IMPLEMENTATION
Impacts to desert tortoise during pre construction and construction	Para 2.03	NEPA, Endangered Species Act	<p>The Corps or the local sponsor, as appropriate, will deliver all tortoises that are to be removed permanently from the wild to Dewey Animal Care, Inc., in Las Vegas, Nevada. The Corps or the local sponsor will bear the cost incurred by Dewey Animal Care, Inc., of caring for and marking the tortoises. The time and date of collection, Biological Opinion number, and collector's name will be marked by the Corps or the local sponsor on each individual box containing a desert tortoise.</p> <p>The Corps or local sponsor will contact the tortoise transfer facility in writing at least 10 days in advance that tortoises are to be collected and delivered to the facility. The Corps will notify the local sponsor of this requirement.</p>	Concurrent with construction activities causing impacts.
			<p>The Corps is responsible for ensuring that the following provisions are implemented:</p> <p>1) All tortoises delivered from the transfer facility will be permanently and humanely marked as provided under the Short-term Habitat Conservation Plan for the Desert Tortoise.</p> <p>2) Handling of tortoises by Dewey Animal Care, Inc., will be consistent with conditions authorized under Fish and Wildlife 10(a)(1)(B) Permit #756260.</p>	Concurrent with construction activities causing impacts.

Table 10
ENVIRONMENTAL COMMITMENTS

SIGNIFICANT IMPACT	EIS REFERENCE	FEDERAL ENVIRONMENTAL COMPLIANCE	MITIGATION COMMITMENT	IMPLEMENTATION
Impacts to desert tortoise during pre construction and construction	Para 2.03	NEPA, Endangered Species Act	The Corps and/or its designee will implement a litter control program during construction that will include the use of covered, raven-proof trash receptacles, removal of trash from the construction site to the trash receptacles following the close of each work day, and proper disposal of trash in a designated solid waste disposal facility at the end of each work week.	Concurrent with construction activities causing impacts.
Impacts to desert tortoise during operation and maintenance	Para 2.03	NEPA, Endangered Species Act	Prior to maintenance activities at any facility in tortoise habitat, a qualified Biologist will conduct a thorough survey of the facility not more than 1 day prior to initiation of the work and flag all tortoise burrows found within the area in which maintenance activities will take place. If the maintenance is to occur between November 1 and March 15, burrows shall either be completely avoided, or the burrows dug out and hibernating tortoises moved as specified in Appendix A of the Biological Opinion. If the maintenance is to occur between March 15 and November 1, a Biologist shall accompany the maintenance crew and move all tortoises to safety that would be affected by the activity as specified in Appendix A of the Biological Opinion.	Subsequent to project completion (operation and maintenance).
			Herbicides shall not be used in or adjacent to any facilities located in areas occupied by the desert tortoise unless approved in writing by the FWS.	Subsequent to project completion (operation and maintenance).

Table 10
ENVIRONMENTAL COMMITMENTS

SIGNIFICANT IMPACT	EIS REFERENCE	FEDERAL ENVIRONMENTAL COMPLIANCE	MITIGATION COMMITMENT	IMPLEMENTATION
Impacts to desert tortoise during operation and maintenance	Para 2.03	NEPA, Endangered Species Act	Maintenance crews that locate a tortoise that is trapped in any flood control facility will immediately notify a person designated by the local sponsor to handle such situations. The tortoise will be moved by a person trained in tortoise handling procedures. If a live tortoise is in imminent danger of harm within a facility, a maintenance crew member may move the tortoise out of harms way using methods provided in the training program.	Subsequent to project completion (operation and maintenance).
Temporary impacts to the desert tortoise and other vegetation and wildlife	Para 2.03	NEPA, Endangered Species Act	The Corps will develop and implement a revegetation program for temporarily disturbed sites west of Durango Road in areas adjacent to tortoise habitat. The Corps also will monitor the effects of revegetation for ten years after revegetation. Revegetation and monitoring plans will be developed by the Corps and coordinated with the FWS prior to initiation of construction.	Upon completion of construction.
Temporary construction impacts	Paras 4.07a, and 4.11	NEPA	Planting of native species in disturbed areas for erosion control.	Upon completion of construction.

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01415

METRIC MEASUREMENTS

- 1.1 REFERENCES
- 1.2 GENERAL
- 1.3 USE OF MEASUREMENTS
 - 1.3.1 Hard Metric
 - 1.3.2 Soft Metric
 - 1.3.3 Neutral
- 1.4 COORDINATION
- 1.5 RELATIONSHIP TO SUBMITTALS

-- End of Section Table of Contents --

SECTION 01415

METRIC MEASUREMENTS

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.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E 380	(1993) Practice for Use of the International System of Units (SI)
ASTM E 621	(1994) Practice for Use of Metric (SI) Units in Building Design and Construction

1.2 GENERAL

This project includes metric units of measurements. The metric units used are the International System of Units (SI) developed and maintained by the General Conference on Weights and Measures (CGPM); the name International System of Units and the international abbreviation SI were adopted by the 11th CGPM in 1960. A number of circumstances require that both metric SI units and English inch-pound (I-P) units be included in a section of the specifications. When both metric and I-P measurements are included, the section may contain measurements for products that are manufactured to I-P dimensions and then expressed in mathematically converted metric value (soft metric) or, it may contain measurements for products that are manufactured to an industry recognized rounded metric (hard metric) dimensions but are allowed to be substituted by I-P products to comply with the law. Dual measurements are also included to indicate industry and/or Government standards, test values or other controlling factors, such as the code requirements where I-P values are needed for clarity or to trace back to the referenced standards, test values or codes.

1.3 USE OF MEASUREMENTS

Measurements shall be either in SI or I-P units as indicated, except for soft metric measurements or as otherwise authorized. When only SI or I-P measurements are specified for a product, the product shall be procured in the specified units (SI or I-P) unless otherwise authorized by the Contracting Officer. The Contractor shall be responsible for all associated labor and materials when authorized to substitute one system of units for another and for the final assembly and performance of the specified work and/or products.

1.3.1 Hard Metric

A hard metric measurement is indicated by an SI value with no expressed correlation to an I-P value, i.e., where an SI value is not an exact mathematical conversion of an I-P value, such as the use of 100 mm in lieu of 4 inches. Hard metric measurements are often used for field data such as distance from one point to another or distance above the floor. Products are considered to be hard metric when they are manufactured to metric dimensions or have an industry recognized metric designation.

1.3.2 Soft Metric

- a. A soft metric measurement is indicated by an SI value which is a mathematical conversion of the I-P value shown in parentheses (e.g. 38.1 mm (1-1/2 inches)). Soft metric measurements are used for measurements pertaining to products, test values, and other situations where the I-P units are the standard for manufacture, verification, or other controlling factor. The I-P value shall govern while the metric measurement is provided for information.
- b. A soft metric measurement is also indicated for products that are manufactured in industry designated metric dimensions but are required by law to allow substitute I-P products. These measurements are indicated by a manufacturing hard metric product dimension followed by the substitute I-P equivalent value in parentheses (e.g., 190 x 190 x 390 mm (7-5/8 x 7-5/8 x 15-5/8 inches)).

1.3.3 Neutral

A neutral measurement is indicated by an identifier which has no expressed relation to either an SI or an I-P value (e.g., American Wire Gage (AWG) which indicates thickness but in itself is neither SI nor I-P).

1.4 COORDINATION

Discrepancies, such as mismatches or product unavailability, arising from use of both metric and non-metric measurements and discrepancies between the measurements in the specifications and the measurements in the drawings shall be brought to the attention of the Contracting Officer for resolution.

1.5 RELATIONSHIP TO SUBMITTALS

Submittals for Government approval or for information only shall cover the SI or I-P products actually being furnished for the project. The Contractor shall submit the required drawings and calculations in the same units used in the contract documents describing the product or requirement unless otherwise instructed or approved. The Contractor shall use ASTM E 380 and ASTM E 621 as the basis for establishing metric measurements required to be used in submittals.

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01451

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

- 1.1 REFERENCES
- 1.2 PAYMENT

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

- 3.1 GENERAL REQUIREMENTS
- 3.2 QUALITY CONTROL PLAN
 - 3.2.1 Content of the CQC Plan
 - 3.2.2 Acceptance of Plan
 - 3.2.3 Notification of Changes
- 3.3 COORDINATION MEETING
- 3.4 QUALITY CONTROL ORGANIZATION
 - 3.4.1 Personnel Requirements
 - 3.4.2 CQC System Manager
 - 3.4.3 CQC Personnel
 - 3.4.4 Additional Requirement
 - 3.4.5 Organizational Changes
- 3.5 SUBMITTALS AND DELIVERABLES
- 3.6 CONTROL
 - 3.6.1 Preparatory Phase
 - 3.6.2 Initial Phase
 - 3.6.3 Follow-up Phase
 - 3.6.4 Additional Preparatory and Initial Phases
- 3.7 TESTS
 - 3.7.1 Testing Procedure
 - 3.7.2 Testing Laboratories
 - 3.7.2.1 Capability Check
 - 3.7.2.2 Capability Recheck
 - 3.7.3 Onsite Laboratory
 - 3.7.4 Furnishing or Transportation of Samples for Testing
- 3.8 COMPLETION INSPECTION
 - 3.8.1 Punch-Out Inspection
 - 3.8.2 Pre-Final Inspection
 - 3.8.3 Final Acceptance Inspection
- 3.9 DOCUMENTATION
- 3.10 NOTIFICATION OF NONCOMPLIANCE

- 3.11 CONTRACTOR PROJECT MANAGEMENT SYSTEM.
 - 3.11.1 General
 - 3.11.2 Submission and Approval.
 - 3.11.3 Network Modifications.
 - 3.11.4 Logic Diagrams and Reports.
 - 3.11.4.1 Logic diagrams.
 - 3.11.4.2 Reports.
 - 3.11.5 Forecasting Expenditures.
 - 3.11.6 Payment Requests.
- 3.12 IMPLEMENTATION OF GOVERNMENT RESIDENT MANAGEMENT SYSTEM.

-- End of Section Table of Contents --

SECTION 01451

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.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3740 (1996) 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 (1995b) 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.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

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

The CQC System Manager will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with quality requirements specified in the contract.

3.2 QUALITY CONTROL PLAN

The Contractor shall furnish for review by the Government, not later than 30 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 15 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.1 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, 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 a project manager, not the site superintendent.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.
- e. 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.)
- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats.
- i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may 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 features under a particular section. This list will be agreed upon during the coordination meeting.

3.2.2 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 his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.3 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of 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 CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 10 calendar days prior to the Coordination Meeting. 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 onsite and offsite 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.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure contract compliance. The Contractor shall provide a CQC organization which shall be at the site at all times during progress of the work and with complete authority to take any action necessary to ensure compliance with the contract. All CQC staff members shall be subject to acceptance by the Contracting Officer.

3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer, or a graduate of construction management, with a minimum of 3 years construction experience on construction similar to this contract. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager shall be separate from the Production Manager or supervisory staff. The CQC System Manager shall be assigned no other duties. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

3.4.3 CQC Personnel

In addition to CQC personnel specified elsewhere in the contract, the Contractor shall provide as part of the CQC organization specialized personnel to assist the CQC System Manager for the following areas: civil, structural, and materials technician. These individuals shall be directly employed by the prime Contractor and may not be employed by a supplier or sub-contractor on this project; be responsible to the CQC System Manager; be physically present at the construction site during work on their areas of responsibility; have the necessary education and/or experience in accordance with the experience matrix listed herein. These individuals may perform other duties but must be allowed sufficient time to perform their assigned quality control duties as described in the Quality Control Plan.

Experience Matrix

Area	Qualifications
a. Civil	Graduate Civil Engineer with 2 years experience in the type of work being performed on this project or technician with 5 yrs related experience
b. Architectural	Graduate Architect with 2 yrs experience or person

Experience Matrix

Area	Qualifications
	with 5 yrs related experience
c. Concrete, Pavements and Soils	Materials Technician with 2 yrs experience for the appropriate area and certification in accordance with ACI or National standards as specified in project specifications and reference documents

3.4.4 Additional Requirement

In addition to the above experience and education requirements the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors".

3.4.5 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be

accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.

- 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. Review of provisions that 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 controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature 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. Discussion of the initial control phase.
- k. The Government shall be notified at least 72 hours in advance of beginning the preparatory control 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 work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.

- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as 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 onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, 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 nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall 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, onsite 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 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. 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 offsite 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.

3.7.2 Testing Laboratories

3.7.2.1 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.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of \$675.00 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.

3.7.3 Onsite Laboratory

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.

3.7.4 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 an address to be determined. Coordination for each specific test, exact delivery location, and dates will be made through the Resident/Project Office.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the Special Clause, "Commencement, Prosecution, and Completion of Work", or by the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies 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.

Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance at the final acceptance inspection. Additional Government personnel including, but not limited to, those from Sponsor's user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

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 an acceptable form 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 shall be identified (Preparatory, Initial, Follow-up). List of 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 and deliverables reviewed, with contract reference, by whom, and action taken.
- g. Offsite 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 72 hours after the date 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 7 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 work site, 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 CONTRACTOR PROJECT MANAGEMENT SYSTEM.

3.11.1 General

3.11.1.1 The Contractor project Management System is included to assure adequate planning and execution of the work, to assist the Contracting Officer on appraising the reasonableness of the schedule, to evaluate progress of the work, and make progress payments, and to make decisions relative to time and/or cost adjustments which may result from changes in the work.

3.11.1.2 The management system is to be based on a computerized Network Analysis (Critical Path Method) operated by on-site personnel at terminals located in the Contractors's on-site office. On-site management shall be capable of using the system to address all project activities and resources on a real time inactive basis and be capable of rapidly evaluating alternative scenarios which will optimize project management. Evidence of technical expertise of on-site personnel with the proposed computerized Network Analysis System shall be submitted for Contracting Officer's approval prior to on-site work. The Contractor's Scheduling system shall be capable of downloading fully and completely to the Corps of Engineers Standard Data Exchange Format.

3.11.1.3 The Contractor shall resource load all work activities. As a minimum, resource loading shall identify equipment, management, skilled and unskilled labor requirements. The Contractor may at his option decide on greater detail for his own purposes, but if this option is elected, the system must be able to consolidate resources into the above defined categories for use by the Contracting Officer.

3.11.1.4 The Contractor shall incorporate any and all milestone and contract required events which may be specified elsewhere within these specifications. Should milestone events be not specifically identified by the Government within these specifications, the Contractor shall identify at least five percent of the network activities and designate them as milestone activities.

3.11.1.5 The Contractor Project Management System is to be staffed and prepared pursuant of CONTRACT CLAUSE: SCHEDULE FOR CONSTRUCTION CONTRACTS,

and CONTRACT CLAUSE: SUPERINTENDENT BY THE CONTRACTOR. In preparing this system the Contractor assume responsibility for conformance with contract requirements, planning, sequencing of work, and determining the construction means and methods.

3.11.2 Submission and Approval.

Submission and approval of the system shall be as follows:

3.11.2.1 The complete network system consisting of the detailed network mathematical analysis (including on-site manpower loading schedule) and network logic diagrams shall be submitted for approval within thirty (30) calendar days after receipt of Notice to Proceed. This shall be submitted in assembled hardcopy paper format and software computer disk to allow restoring on Government Computers.

3.11.2.2 The Contractor shall participate in a review and evaluation of the proposed network logic diagrams and mathematical analysis by the Contracting Officer. Any revisions necessary as a result of this review shall be resubmitted for approval of the Contracting Officer within three (3) calendar days after the conference. The approved schedule shall be used by the Contractor for planning, organizing and directing the work, reporting progress, and requesting payment for work accomplished.

3.11.3 Network Modifications.

3.11.3.1 In those cases where the contract performance is delayed due to causes beyond the control of the Contractor, and a time extension may be allowable under one or more of the CONTRACT CLAUSES: CHANGES, or DIFFERING SITE CONDITIONS, or DEFAULT (FIXED PRICE CONSTRUCTION), or SUSPENSION OF WORK, or other applicable clauses, as a proposal in such format as to identify the specific subnet diagram and activities affected.

3.11.3.2 Change order proposals shall include description or listing of all proposed changes to the network, by activity, and demonstrate the effect on the contract required completion date. A complete list of activities changed and subnet of activities affected by the change shall be submitted.

3.11.3.3 Float or slack is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any of the activities in the NAS schedule. Float or slack is not time for the exclusive use or benefit of either the Government or the Contractor. Extensions of time for performance may be granted to the extent that equitable time adjustment for the activities affected exceed the total float or where otherwise justified, effect on contract completion can be shown. The contract completion date is fixed, and will be amended only the modifications which include time and are signed by the Contracting Officer.

3.11.3.4 Rapid resolution of change orders and the granting of other time extensions where authorized by the Contracting Officer is a critical part of the overall management system. Implementation of all justified activity and logic changes shall be made and reflected on the next monthly update

after approval of the Contracting Officer.

3.11.3.5 If, in the opinion of the Contracting Officer, the current schedule no longer accurately reflects the Contractor's real plan for accomplishing the work, or no longer reflects a viable way of finishing the work on schedule, the Contractor shall be directed to revise the schedule and submit it for approval within seven (7) calendar days of direction.

3.11.4 Logic Diagrams and Reports.

3.11.4.1 Logic diagrams.

3.11.4.1.1 Logic diagrams shall show the order and interdependency of activities and sequence in which the work is to be accomplished as planned by the Contractor.

3.11.4.1.2 Detailed networks need not be timed scaled, but drafted to have a continuous flow from left to right, showing how the start of a given activity is dependent on the completion of preceding activities, and how its completion restricts the start of the following activities.

3.11.4.1.3 An assembled logic diagram of the complete project shall be submitted with the initial NAS, showing each activity identifying numbers, duration, description, with the critical path easily identified. Updated assembled diagrams will be provided as required by logic changes (but not more frequently than the monthly update). The logic diagram shall be plotted on architectural size E paper.

3.11.4.1.4 In addition to the detailed schedule, a summary schedule shall be developed by the Contractor. The summary schedule shall consist of minimum thirty (30) activities and be updated monthly.

3.11.4.2 Reports.

3.11.4.2.1 After the network approval, the Contractor shall review and evaluate the actual progress with the Contracting Officer's representative on a weekly basis, and submit any updated weekly reports three (3) workdays after the meeting.

3.11.4.2.2 Three (3) weekly reports, selected from specific items of the menu will be required, for specified time window of the project (such as the next two weeks). These reports must be flexible in format, allowing generation of reports relating specifically to critical work areas, or areas of particular interest. The Government will identify the subject of the requested reports for the following week at a weekly review meeting. All activities involving the Government that affect progress will be coded to allow to separate report.

3.11.4.2.3 Monthly update reports will be submitted at midmonth showing status and actual start and finish dates of project activities, and will be capable of comparing the current status with the approved base schedule. Each monthly update report shall be uniquely identified and shall be stored on the Contractor's computer until the final pay estimate is processed. The content of the monthly update shall be flexible to show items listed in

the menu. The midmonth report shall be used for partial payments.

3.11.4.2.4 A meeting shall be held three (3) workdays before the delivery of the midmonth report to discuss all input data. If the Contractor desires to make changes in his method of operation and scheduling, he shall clearly present the proposed changes.

3.11.4.2.5 A narrative report shall be submitted with midmonth report indicating current and anticipated problems, delaying factors, and conditions that are impacting the Contractor's work effort. An analysis showing the reasons for the delay/gain and their impact upon the current schedule shall be included. When it is apparent the scheduled milestone(s) and completion date(s) will not be met, the Contractor shall propose specific methods he intends to implement to bring the project back on schedule at not cost to the Government. Such measure may include but are not limited to:

- a. Increasing construction manpower in such quantities and crafts as will substantially eliminate the backlog of work effort.
- b. Increasing the number of working hours per shift; shifts per workday; workdays per week; the amount of construction equipment; or any combination thereof.
- c. Rescheduling of activities to achieve maximum practical concurrence of work shifts.

3.11.4.2.6 The Contractor shall implement such procedures as may be necessary for the active participation by his subcontractors in preparing and updating the schedule. Subcontractors shall be provided with schedules which identify the interfaces of their work with the work of others. At minimum, the Contractor shall provide bar graphs to each major subcontractor showing activity times with plots on an Early Start basis. Copies of these schedules shall also be provided to the Contracting Officer. The relationship between subcontractor and interdependency or work shall be managed by the Contractor. When these interdependencies are violated or impaired, the Contractor shall identify the problem, resolve it, and provide the information to the Contracting Officer as part of the monthly report.

3.11.5 Forecasting Expenditures.

The Contracting Officer will provide a spreadsheet to the Contractor showing the different funding categories and their respective categories for each bid item for the total contract amount (see attached FIGURE 1). Each pay period the contractor shall forecast his expenditures for the following 3 pay periods, indicating funding requirements for each category. The updated worksheet (see attached FIGURE 2) shall be submitted with each partial pay estimate (e.g. submitted for the period 15 DEC to 15 JAN will include a forecast of expenditures for the period 15 Jan to 15 APR). Forecasting of expenditures is needed to assure sufficient funding for future progress payments.

3.11.6 Payment Requests.

3.11.6.1 The monthly update report shall be used as a basis for the monthly partial pay estimate. The report will state the cost, actual percent complete, and current value of partially completed or completed work. Subtotals from subnets representing separate areas of construction will be given, along with a grand dollar value of work completed for the project.

3.11.6.2 The first payment shall not be made until the Network Analysis Schedule has been approved by the Contracting Officer. If, in the judgment of the Contracting Officer, The Contractor fails or refuses to provide an approved schedule and other progress or input data specified, the Contractor shall be deemed not to have provided the required information upon which progress payments may be made, and no payment request will be honored.

3.11.6.3 Activities submitted for payment shall be based on the approved network activities and monetary amount. No payment shall be made for activities conducted in deviation of the approved logic.

3.11.6.4 Payment for activities conducted when previously dependent activities have not been completed or accepted due to quality defects shall be restricted at the discretion of the Contracting Officer.

3.12 IMPLEMENTATION OF GOVERNMENT RESIDENT MANAGEMENT SYSTEM.

The Contractor shall utilize a Government furnished CQC Programming Module (A computerized executable file which is DOS based and operates on a minimum of 80386 IBM compatible computers). The Module includes a Daily CQC Reporting System form which must also be used. This form may be in addition to other Contractor desired reporting forms. However, all other such reporting forms shall be consolidated into this one Government specified Daily CQC Report Form. The Contractor will also be required to complete Government-furnished Module elements which includes, but is not limited to, Prime Contractor staffing; letter codes; planned cumulative progress earnings; subcontractor information showing trade, name, address, point-of-contact, and insurance expiration dates; definable features of work; pay activity and activity information; required Quality Control tests tied to individual activities; planned User Schooling tied to specific specification paragraphs and contractor activities; Installed Property Listing, Transfer Property Listing and submittal information relating to specification section, description, activity number, review period and expected procurement period. The sum of all activity values shall equal the contract amount, and all Bid Items, Options and Additives shall be separately identified, in accordance with the "Bidding Schedule". Bid Items may include multiple Activities, but Activities may only be assigned to one such Bid Item. This Module shall be completed to the satisfaction of the Contracting Officer prior to any contract payment (except for Bonds, Insurance and/or Mobilization, as approved by the Contraction Officer) and shall be updated as required.

3.12.1 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 will acknowledge receipt of these comments by specific number reference on his Daily CQC Report and will also reflect on his Daily CQC Report when these items are specifically completed or corrected to permit Government verification.

3.12.2 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 --