

US Army Corps  
of Engineers  
Baltimore District

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# CONSTRUCTION SPECIFICATIONS

## DALECARLIA FLOOD CONTROL IMPROVEMENTS

WASHINGTON AQUEDUCT DIVISION  
WASHINGTON, D.C.

INVITATION NO. **DACA31-02-B-0007**

CONTRACT NO.

DATE **DECEMBER 31, 2001**

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SECTION 01000

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having an "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Title Evidence

Proof of purchase for equipment and/or materials.

Invoice Copies

Proof of rental equipment costs.

Payment Evidence

Proof of full payment.

Photographs

SD-03 Product Data

Cost or Pricing Data

Proof of actual equipment costs.

SD-05 Design Data

Progress Schedule; G WA.

A schedule that shows the manner in which the Contractor intends to prosecute the work.

Modified Chart; G WA.

Prepared when changes are authorized that result in contract time extensions.

1.2 PROGRESS SCHEDULING AND REPORTING (AUG. 1999)

The Contractor, shall within five days or as otherwise determined by the Contracting Officer, after date of commencement of work, submit for approval a practicable progress schedule showing the manner in which he intends to prosecute the work. Contractor prepared form shall contain the

same information as shown on the attached NADB Form 1153 ("Physical Construction Progress Chart" (CENAB-CO-E)

### 1.3 PAYMENTS TO CONTRACTORS: (NOV 1976)

For payment purposes only, an allowance will be made by the Contracting Officer of 100 percent of the invoiced cost of materials or equipment delivered to the site but not incorporated into the construction, pursuant to the Contract Clause entitled "PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS". The Contracting Officer may also, at his discretion, take into consideration the cost of materials or equipment stored at locations other than the jobsite, when making progress payments under the contract. In order to be eligible for payment, the Contractor must provide satisfactory evidence that he has acquired title to such material or equipment, and that it will be utilized on the work covered by this contract. Further, all items must be properly stored and protected. Earnings will be computed using 100% of invoiced value. (CENAB-CO-E)

### 1.4 IDENTIFICATION OF EMPLOYEES: (OCT 1983)

Each employee assigned to this project by the Contractor and subcontractors shall be required to display at all times, while on the project site, an approved form of identification provided by the Contractor, as an authorized employee of the Contractor/subcontractor. In addition, on those projects where identification is prescribed and furnished by the Government, it shall be displayed as required and it shall immediately be returned to the Contracting Officer for cancellation upon release of the assigned employee and or completion of project. To obtain Government issued identification card, each employee of the Contractor working on this project shall be required to complete a "NAB 1603 Request for Identification Card." This card shall be submitted to the Government, who will then schedule the employee to come in and have his or her picture taken for the identification card. (CENAB)

### 1.5 PURCHASE ORDER: (SEP 1975)

One readable copy of all purchase orders for material and equipment, showing firm names and addresses, and all shipping bills, or memoranda of shipment received regarding such material and equipment, shall be furnished the appointed Contracting Officer's Representative as soon as issued. Such orders, shipping bills or memoranda shall be so worded or marked that all material and each item, piece or member of equipment can be definitely identified on the drawings. Where a priority rating is assigned to a contract, this rating, the required delivery date, and the scheduled shipping date shall also be shown on the purchase order. At the option of the Contractor, the copy of the purchase order may or may not indicate the purchase price. (CENAB-CO-E)

### 1.6 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (EFARS 52.0231.5000 (OCT 1995))

(a) This clause does not apply to terminations. See 52.249-5000, Basis for settlement of proposals and FAR Part 49.

(b) Allowable cost for construction and marine plant and equipment in sound workable conditions owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual costs data for each piece of equipment or groups of similar serial and services for which the government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs can not be determined for any piece of equipment or groups of similar serial or series equipment from the contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP1110-1-8 Construction Equipment Ownership and Operating Expenses Schedule, Region East. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the contracting officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d) (ii) and Far 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established proactive of leasing the same or similar equipment to unaffiliated leasees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the contracting officer shall request the contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet. CENAB-CT/SEP 95 (EFARS 52.231-5000)

#### 1.7 NEGOTIATED MODIFICATIONS: (OCT 84)

Whenever profit is negotiated as an element of price for any modification to this contract with either prime or subcontractor, a reasonable profit shall be negotiated or determined by using the OCE Weighted Guidelines method outlined in EFARS 15.902. (Sugg. NAB 84-232)

#### 1.8 PHOTOGRAPHS

PHOTOGRAPHIC COVERAGE: (SEP 85) The Contractor shall furnish ten each 8" x 10" ( commercial grade color photographs of the project (with negatives) to the Contracting Officer. These photographs shall be taken at systematic intervals during the contract where and when directed by the Contracting Officer. (CENAB-CO)

#### PART 2 PRODUCTS

NOT APPLICABLE

#### PART 3 EXECUTION

NOT APPLICABLE

ATTACHMENTS:

NADB Form 1153 ("Physical Construction Progress Chart")

-- End of Section --



## SECTION 01050

## JOB CONDITIONS

## PART 1 GENERAL

## 1.1 LAYOUT OF WORK (APR 1965 COE)

The Government has established bench marks and horizontal control points at the site of the work. These are described and indicated on contract drawings.

From these control points the Contractor shall lay out the work by establishing all lines and grades at the site necessary to control the work and shall be responsible for all measurements that may be required for the execution of the work to the location and limit marks prescribed in the specifications or on the contract drawings. The Contractor shall establish and maintain at the site of the work as a minimum requisite the following horizontal and vertical controls: Stakes every 100' along both creeks.

The above are minimum requirements and the Contractor shall place and establish such additional stakes and markers as may be necessary for control and guidance of his construction operations. All survey data shall be recorded in accordance with standard and approved methods. All field notes, sketches, recordings and computations made by the Contractor in establishing above horizontal and vertical control points shall be available at all times during the progress of the work for ready examination by the Contracting Officer or his duly authorized representative.

The Contractor shall furnish, at his own expense, all such stakes, spikes, templates, platforms, equipment tools and material and all labor as may be required in laying out any part of the work from the control points established by the Government. It shall be the responsibility of the Contractor to maintain and preserve all stakes and other markers established by him until authorized to remove them. If any of the control points established at the site by the Government are destroyed by or through the negligence of the Contractor prior to their authorized removal, they may be replaced by the Contracting Officer, and the expense of replacement will be deducted from any amount due or which may become due the Contractor. The Contracting Officer may require that work be suspended at any time when horizontal and vertical control points established at the site by the Contractor are not reasonably adequate to permit checking the work. Such suspension will be withdrawn upon proper replacement of the control points. (ECI 7-672.2)

## 1.2 PHYSICAL DATA: (APR 1984)

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

## 1.2.1 Transportation Facilities

The principal access route to the Dalecarlia reservoir flood control area is Little Falls Road, which is off MacArthur Boulevard. Public bus service is provided by the Washington Metropolitan Area Transit Authority.

#### 1.2.2 Explorations

The physical conditions indicated on the drawings and in the specifications are the result of site investigations by surveys and observation.

#### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

##### SD-01 Preconstruction Submittals

Checklist; G WA

A Risk Assessment for excavation and other work in the vicinity of utilities.

##### SD-05 Design Data

Survey Data; G WA

The establishing of bench marks and horizontal control points.

#### 1.4 UTILITIES

##### 1.4.1 Availability of Utilities Including Lavatory Facilities: (JUN 1980)

It shall be the responsibility of the Contractor to provide all utilities he may require during the entire life of the contract. He shall make his own investigation and determinations as to the availability and adequacy of utilities for his use for construction purposes and domestic consumption. He shall install and maintain all necessary supply lines, connections, piping, and meters if required, but only at such locations and in such manner as approved by the Contracting Officer. Before final acceptance of work under this contract, all temporary supply lines, connections and piping installed by the Contractor shall be removed by him in a manner satisfactory to the Contracting Officer. (CENAB)

##### 1.4.2 Interruption of Utilities: (1972)

a. No utility services shall be interrupted by the Contractor to make connections, to relocate, or for any purpose without approval of the Contracting Officer.

b. Request for permission to shut down utility services shall be submitted in writing to the Contracting Officer not less than 17 days prior

to proposed date of interruption. The request shall give the following information:

- c. Nature of Utility (Gas, L.P. or H.P., Water, Etc.)
- d. Size of line and location of shutoff.
- e. Buildings and services affected.
- f. Hours and date of shutoff.
- g. Estimated length of time service will be interrupted.

h. Services will not be shut off until receipt of approval of the proposed hours and date from the Contracting Officer.

i. Shutoffs which will cause interruption of Government work operations as determined by the Contracting Officer shall be accomplished during regular non-work hours or on non-work days of the Using Agency without any additional cost to the Government.

j. Operation of valves on water mains will be by Government personnel. Where shutoff of water lines interrupts service to fire hydrants or fire sprinkler systems, the Contractor shall arrange his operations and have sufficient material and personnel available to complete the work without undue delay or to restore service without delay in event of emergency.

k. Flow in gas mains which have been shut off shall not be restored until the Government inspector has determined that all items serviced by the gas line have been shut off. (CENAB)

#### 1.4.3 Alterations to Utilities: (AUG 1968)

Where changes and relocations of utility lines are noted to be performed by others, the Contractor shall give the Contracting Officer in writing advance notice at least thirty days' of the time that the change or relocation is required. In the event that, after the expiration of thirty days after the receipt of such notice by the Contracting Officer, such utility lines have not been changed or relocated and delay is occasioned to the completion of the work under this contract, the Contractor will be entitled to a time extension equal to the period of time lost by the Contractor after the expiration of said thirty day period. Any modification to existing or relocated lines required as a result of the Contractor's method of operation shall be made wholly at the Contractor's expense and no additional time will be allowed for delays incurred by such modifications. (CENAB)

#### 1.4.4 Utility Markings

The Contractor shall contact the Washington Aqueduct and the One-Call Service, a minimum of 14 days and 48 hours, respectively, prior to any excavation, the Washington Aqueduct and Miss Utility requesting utility location markings. The Contractor shall not proceed with any excavation until all utilities, including abandoned utilities, have been marked to the

satisfaction of the Contracting Officer. Prior to requesting the marking of utilities, the Contractor shall stake out proposed excavations and limits of work with white lines ("White Lining"). It is the Contractor's responsibility to ensure that all permits (excavation or otherwise, including Washington Aqueduct permits) are current and up-to-date without expiration. In addition to the above requirements the Contractor shall:

a) Visually survey and verify that all utility markings are consistent with existing appurtenances such as manholes, valve boxes, poles, pedestals, pad-mounted devices, gas meters, etc. prior to any excavation.

b) Hand dig test holes to verify the depth and location of all utilities prior to any mechanical excavation within the limits of work. Other non-damaging methods for utility verification, as indicated in (d) below, may be considered subject to approval by the Contracting Officer. Also, verify that any abandoned utilities are not active.

c) Preserve all utility markings for the duration of the project to the furthest extent possible.

d) When excavation is performed within 2 feet of any utility line, a non-damaging method of excavation shall be used. The non-damaging method shall be hand digging. Other non-damaging methods, such as, soft digging, vacuum excavation, pneumatic hand tools, may be considered subject to approval by the Contracting Officer.

e) Regardless of the type of excavation, the Contractor shall notify the Contracting Officer a minimum of 72 hours prior to any excavation activity.

Failure to notify the Contracting Officer can result in the issuance of a "Stop Work" order, which shall not be justification for contract delay or time extension. The Government reserves the right to have personnel present on site during any type of excavation.

f) The Contractor's Quality Control System Manager shall ensure that all excavation requirements herein are met at the time of the preparatory phase of quality control, and that the excavation procedures are reviewed during the preparatory phase meeting. This preparatory phase of control shall also establish and document contingency plans and actions to be followed in the event that existing utilities are damaged or interrupted. Locations of shut off or isolation devices along with other safety features shall be established and their operation reviewed.

g) Any work other than excavation in the vicinity of a utility, that could damage or interrupt a utility, such as, exterior or interior work near transformers, power lines, poles, above ground gas lines, gas meters, etc., shall be done with extreme care. The Contractor shall specifically note during the preparatory phase of quality control, the construction techniques to be used to preclude damaging or interrupting any utility. This preparatory phase of control shall also establish and document contingency plans and actions to be followed in the event that existing utilities are damaged or interrupted. Locations of shut off or isolation devices along with other safety features shall be established and their operation reviewed.

h) The Contractor shall complete a risk assessment, using the attached checklist, at least one week prior to the start of any excavation or other work in the vicinity of a utility. The risk assessment shall be submitted for government approval prior to any excavation or other work in the vicinity of a utility. A risk assessment shall be completed for each definable feature of work encountering utilities and shall include all utilities anticipated to be encountered.

1.5 DISPOSAL OF EXISTING MATERIAL AND EQUIPMENT: (DEC 1975)

All removed, dismantled or demolished material and/or equipment including rubble, scrap and debris not specified or indicated to be Government salvaged, reinstalled under this contract or otherwise retained for disposal on Government land will become the property of the Contractor and shall be promptly removed from the site and disposed of by the Contractor at his own expense and responsibility. (CENAB)

1.6 COMPLIANCE WITH WATER TREATMENT PLANT REGULATIONS: (JUL 1980)

The site of the work is on Corps of Engineers property and all rules and regulations issued by the Chief, Washington Aqueduct Division covering general safety, security, sanitary requirements, pollution control, traffic regulations and parking, shall be observed by the Contractor. Information regarding these requirements may be obtained by contacting the Contracting Officer, who will provide such information or assist in obtaining same from appropriate authorities.

1.7 MAINTENANCE OF ACCESS: (DEC 1975)

The Contractor shall not block passage through sidewalks, roads, alleys or other entranceways to the work area during performance of work under this contract. All existing fence, gates, trees, brush, vines, materials and debris removed during the work that are not to be reinstalled shall be removed daily by the Contractor from the Government property. (CENAB)

1.8 PROTECTION OF GOVERNMENT PROPERTY AND PERSONNEL: (DEC 1975)

1.8.1 Protection of Equipment

All existing Government owned equipment within the work area shall be protected by the Contractor from damage caused by construction operations. Existing work damaged by construction operations shall be promptly repaired by the Contractor at his own expense.

1.8.2 Protection of Personnel

The Contractor shall protect other Contractor's personnel by installing safety rails and/or barricades as applicable to prevent injury from unauthorized entry of personnel into work areas. Warning signs shall be erected as necessary to indicate Construction areas or hazardous zones. Work shall proceed in such manner as to prevent the undue spread of dust and flying particles.

1.8.3 Measures to Prevent Damage/Injury

The Contractor shall take such additional measures as may be directed by the Contracting Officer to prevent damage or injury to Government property or personnel. (CENAB)

1.9 ORDER OF WORK AND COORDINATION WITH OTHER CONTRACTORS: (FEB 1979)

Other Contractors are presently working in the same area. After award of this contract a meeting will be held with all contractor representatives and the Contracting Officer to develop a plan of work coordination. In case of disagreement regarding use of an area the decision of the Contracting Officer will control. (CENAB)

1.10 ASBESTOS HANDLING AND REMOVAL (FEB 85)

Through site investigations, friable asbestos has not been found, however if asbestos is encountered, its testing, removal and disposal is covered in "CHANGES" clause of the Contract Clauses. (CENAB)

1.11 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

1.11.1 Procedure for Determination

This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance the contract clause entitled "Default: (Fixed Price Construction)". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

- a. 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.
- b. 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.

1.11.2 Anticipated Adverse Weather Delays

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 DELAY  
WORK DAYS BASED ON (5) DAY WORK WEEK

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
4	5	6	7	6	6	6	5	2	5	4	3

1.11.3 Impact

Upon acknowledgment 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 delay 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 paragraph "Anticipated Adverse Weather Delays", above, 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 entitled "Default (Fixed Price Construction)".

#### 1.12 WORKING HOURS

WORKING HOURS: (DEC 93) It shall be the Contractors responsibility to obtain the working hours other than the normal five (5) day work week 07:00 am to 3:30 pm.

#### 1.13 LIMITS OF WORK AREAS

The limits of work areas as shown on the drawings are necessarily approximate. In case of doubt as to the actual limits of any work area, determination as to the actual limits will be made by the Contracting Officer.

#### 1.14 DAMAGE TO WORK (1966 MAR OCE)

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

#### 1.15 ENVIRONMENTAL LITIGATION (1974 NOV OCE)

If the performance of all or any part of the work is suspended, delayed, or

interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, as defined below, the Contracting Officer, at the request of the Contractor, shall determine whether the order is due in any part to the acts or omissions of the Contractor or a Subcontractor at any tier not required by the terms of this contract. If it is determined that the order is not due in any part to acts or omissions of the Contractor or a Subcontractor at any tier other than as required by the terms of this contract, such suspension, delay, or interruption shall be considered as if ordered by the Contracting Officer in the administration of this contract under the terms of the "Suspension of Work" clause of the Contract Clauses. The period of such suspension, delay or interruption shall be considered unreasonable, and an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) as provided in that clause, subject to all the provisions thereof.

The term "environmental litigation", as used herein, means a lawsuit alleging that the work will have an adverse effect on the environment or that the Government has not duly considered, either substantively or procedurally, the effect of the work on the environment. (CENAB)

#### 1.16 MEASUREMENT AND PAYMENT

No separate measurement and payment will be made for the work performed in this Section 01050, JOB CONDITIONS, specified herein; and all costs in connection therewith shall be considered a subsidiary obligation of the Contractor, and shall be included in the overall cost of the work.(CENAB)

#### PART 2 PRODUCTS

NOT APPLICABLE

#### PART 3 EXECUTION

NOT APPLICABLE

ATTACHMENT

RISK ASSESSMENT CHECKLIST

-- End of Section --

**RISK ASSESSMENT FOR  
EXCAVATION AND OTHER WORK IN THE VICINITY OF UTILITIES**

PROJECT NAME: \_\_\_\_\_  
CONTRACT NUMBER: \_\_\_\_\_  
PROJECT INSTALLATION AND LOCATION: \_\_\_\_\_  
PROPOSED EXCAVATION START DATE: \_\_\_\_\_

1.  **ESTABLISH EXCAVATION DETAILS AND DRAWINGS** (check when completed)
2.  **PROPOSED EXCAVATION AREA MARKED ("white lining")** (check when completed)
3.  **CONTACT APPROPRIATE ONE-CALL SERVICE FOR PUBLIC UTILITIES:**  
MD: Miss Utility 1-800-257-7777      N Y : New York City - Long Island One Call Center 1-800-272-4480  
N. VA: Miss Utility 1-800-552-7777      PA: Pennsylvania One-Call System Incorporated 1-800-242-1776  
VA: Miss Utility of VA 1-800-552-7001      DC: Miss Utility 1-800-257-7777  
ONE-CALL NATIONAL REFERRAL CENTER: 1-888-258-0808

**CONTACT INSTALLATION/OWNERS OF ALL PRIVATELY OWNED UTILITIES (NON ONE-CALL MEMBERS)**

4.  **DATE UTILITIES MARKED AND METHOD OF MARKING**  
**ONE-CALL LOCATORS** \_\_\_\_\_  
**OTHER LOCATORS** \_\_\_\_\_

5.  **CONTACT APPROPRIATE DPW REPRESENTATIVES AND COMPLY WITH INSTALLATION PERMIT REQUIREMENTS:** \_\_\_\_\_

6.  **UTILITIES IDENTIFIED ON-SITE:**  
 NONE  ELECTRIC  GAS  WATER  TELEPHONE  CATV  SEWER  OTHER \_\_\_\_\_

7.  **LEVEL OF RISK:** (Based upon personnel safety and consequences of utility outages.)  
 **SEVERE:** Excavation required within the immediate vicinity (<2-ft) of a MARKED utility.  
 **MODERATE:** Excav. required outside the immediate vicinity (> 2-ft) of MARKED utility.  
 **MINIMAL:** Excavation required in an area with NO utilities.

8.  **EXISTING FACILITIES/UTILITIES IN VICINITY:**  
 NON-CRITICAL  MISSION CRITICAL  HIGH-PROFILE  CEREMONIAL  
 OTHER \_\_\_\_\_  
 **CONSEQUENCES IF EXISTING UTILITIES ARE DAMAGED/DISRUPTED** \_\_\_\_\_

9.  **ENGINEERING CONTROLS REQUIRED:**  
 NONE  HAND EXCAVATE TO LOCATE UTILITY  EXCAVATE WITH DUE CARE  
 OTHER \_\_\_\_\_

10.  **ADMINISTRATIVE CONTROLS REQUIRED:**  
 Notification of Contracting Officer's Representative, NOTIFIED on: \_\_\_\_\_  
 Notification of Installation/DPW Representative, NOTIFIED on: \_\_\_\_\_

11.  **EMERGENCY NOTIFICATION AT INSTALLATION: POC & PHONE NUMBER** \_\_\_\_\_

**THE INFORMATION NOTED ABOVE IS ACCURATE AND THE WORK IS READY TO PROCEED**  
**SIGNED and DATE** \_\_\_\_\_ **CQC MANAGER**

12.  **ON-SITE GOVERNMENT REP. RECOMMENDATION FOR APPROVAL TO EXCAVATE:**  
 YES  NO SIGNATURE AND DATE: \_\_\_\_\_  
Comments: \_\_\_\_\_

13.  **AREA ENGINEER APPROVAL TO EXCAVATE:**  
 APPROVED  DENIED SIGNATURE AND DATE: \_\_\_\_\_  
Comments: \_\_\_\_\_

14.  **CHIEF, \_\_\_\_\_ DIVISION APPROVAL TO EXCAVATE:**  
 APPROVED  DENIED SIGNATURE AND DATE: \_\_\_\_\_  
Comments: \_\_\_\_\_

## SECTION 01060

## SAFETY

## PART 1 GENERAL

## 1.1 APPLICABLE PUBLICATION

The publications listed below form a part of this specification and are referred to in the text by the basic designation only. All interim changes (changes made between publications of new editions) to the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, will be posted on the Headquarters Website. The date that it is posted shall become the official effective date of the change and contracts awarded after this date shall require to comply accordingly. The website location where these changes can be found is under the button entitled "Changes to EM", located at: "[http://www.hq.usace.army.mil/soh/hqusace\\_soh.htm](http://www.hq.usace.army.mil/soh/hqusace_soh.htm)".

## U.S. ARMY CORPS OF ENGINEERS:

EM 385-1-1 (3 Sep 1996) U.S. Army Corps of Engineers  
Safety and Health Requirements Manual

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-01 Preconstruction Submittals

Safety Supervisor; G WA.

A safety supervisor shall be responsible for overall supervision of accident prevention activities.

## SD-07 Certificates

Language Certification

It is the Contractors responsibility to ensure that all employees understand the basic English language.

## SD-09 Manufacturer's Field Reports

Activity Phase Hazard Analysis Plan; G WA.

The addressing of the activity phase hazard analysis plan for each activity performed in a phase of work.

Outline Report

A report for each past activities review.

OSHA Log

A log shall be reported monthly for injuries.

### 1.3 GENERAL

The U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, and all subsequent revisions referred to in the Contract Clause ACCIDENT PREVENTION of this contract, are hereby supplemented as follows:

a. The Contractor shall designate an employee responsible for overall supervision of accident prevention activities. Such duties shall include: (1) assuring applicable safety requirements are (a) communicated to the workers in a language they understand (reference EM 385-1-1, September 1996, 01.A.04). It is the Contractor's responsibility to ascertain if there are workers on the job who do not speak and/or understand the English language, if such workers are employed by the prime contractor or subcontractors, at any tier, it is the prime contractor's responsibility to insure that all safety programs, signs, and tool box meetings are communicated to the workers in a language they understand, and that a bilingual employee is on site at all time. If the contractor contends that interpreters and/or bilingual signs are not required, language certification must be provided which verifies that all workers (whose native tongue is other than English) have a command of the English language sufficient to understand all direction, training and safety requirements, whether written or oral, and (b) incorporated in work methods, and (2) inspecting the work to ensure that safety measures and instructions are actually applied. The proposed safety supervisor name and qualifications shall be submitted in writing for approval to the Contracting Officer's Representative. This individual must have prior experience as a safety engineer or be able to demonstrate his/her familiarity and understanding of the safety requirements over a prescribed trial period. The safety engineer shall have the authority to act on behalf of the Contractor's general management to take whatever action is necessary to assure compliance with safety requirements. The safety supervisor is required to be on the site when work is being performed.

b. Prior to commencement of any work at a job site, a preconstruction safety meeting shall be held between the Contractor and the Contracting Officer's Representative to discuss the Contractor's safety program and in particular to review the following submittals:

(1) Contracts Accident Prevention Plan: An acceptable accident prevention plan, written by the prime Contractor for the specific work and implementing in detail the pertinent requirements of EM 385-1-1, shall be submitted for Government approval.

(2) Activity Phase Hazard Analysis Plan: Prior to beginning each major phase of work, an activity hazard analysis (phase plan) shall be prepared by the Contractor for that phase of work and submitted to the Contracting Officer's Representative for approval. A phase 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 work. The analysis shall address the hazards for each activity performed in the phase and shall present the procedures and safeguards necessary to eliminate the hazards or reduce the risk to an acceptable level.

c. Subsequent jobsite safety meetings shall be held as follows:

(1) A safety meeting shall be held at least once a month for all supervisors on the project to review past activities, to plan ahead for new or changed operations and to establish safe working procedures to anticipated hazards. An outline report of each monthly meeting shall be submitted to the Contracting Officer's Representative.

(2) At least one safety meeting shall be conducted weekly, or whenever new crews begin work, by the appropriate field supervisors or foremen for all workers. An outline report of the meeting giving date, time, attendance, subjects discussed and who conducted it shall be maintained and copies furnished the designated authority on request.

#### 1.4 ACCIDENTS

Chargeable accidents are to be investigated by both Contractor personnel and the Contracting Officer.

##### 1.4.1 Accident Reporting, ENG FORM 3394

Section 1, Paragraph 01.D, OF EM 385-1-1 and the Contract Clause entitled ACCIDENT PREVENTION are amended as follows: The prime Contractor shall report on Eng Form 3394, supplied by the Contracting Officer, all injuries to his employees or subcontractors that result in lost time and all damage to property and/or equipment in excess of \$2,000 per incident. Verbal notification of such accident shall be made to the Contracting Officer within 24 hours. A written report on the above noted form shall be submitted to the Contracting Officer within 72 hours following such accidents. The written report shall include the following:

a. A description of the circumstances leading up to the accident, the cause of the accident, and corrective measures taken to prevent recurrence.

b. A description of the injury and name and location of the medical facility giving examination and treatment.

c. A statement as to whether or not the employee was permitted to return to work after examination and treatment by the doctor, and if not, an estimate or statement of the number of days lost from work. If there have been days lost from work, state whether or not the employee has been re-examined and declared fit to resume work as of the date of the report.

##### 1.4.2 OSHA Requirements

###### 1.4.2.1 OSHA Log

A copy of the Contractor's OSHA Log of Injuries shall be forwarded monthly to the Contracting Officer.

## 1.4.2.2 OSHA Inspections

Contractors shall immediately notify the Contracting Officer when an OSHA Compliance official (Federal or State representative) presents his/her credentials and informs the Contractor that the workplace will be inspected for OSHA compliance. Contractors shall also notify the Contracting Officer upon determination that an exit interview will take place upon completion of the OSHA inspection. (NABSA OCT 05, 1976)

## 1.5 GOVERNMENT APPROVAL

Submittals shall be in accordance with Section 01330 SUBMITTAL PROCEDURES. All required submittals of items specified in this section shall be for information only, except for those items including, but not limited to, the following which shall be submitted for Government approval:

- a. Written designation of safety representative.
- b. Written project specific accident prevention plan.
- c. Written activity phase hazard analysis plan.

PART 2 PRODUCT  
NOT APPLICABLE

PART 3 EXECUTION  
NOT APPLICABLE

-- End of Section --

## SECTION 01200

## WARRANTY REQUIREMENT

## PART 1 GENERAL

## 1.1 WARRANTY OF CONSTRUCTION

The Contractor shall warranty all materials and workmanship in accordance with Contract Clause (FAR 52.246-21), "WARRANTY OF CONSTRUCTION"

## 1.2 WARRANTY PAYMENT

Warranty work is a subsidiary portion of the contract work, and has a value to the Government of \$5,000. The Contractor will assign a value of that amount in the breakdown for progress payments mentioned in the Contract Clause (FAR 52.232-5) "Payments Under Fixed-Price Construction". If the Contractor fails to respond to warranty items as provided in paragraph CONTRACTOR'S RESPONSE TO WARRANTY SERVICE REQUIREMENTS below, the Government may elect to acquire warranty repairs through other sources and, if so, shall backcharge the Contractor for the cost of such repairs. Such backcharges shall be accomplished under the Contract Clause (FAR 52.243-4) "CHANGES" of the contract through a credit modification(s).

## 1.3 PERFORMANCE BOND:

The Contractor's Performance Bond will remain effective throughout the construction warranty period and warranty extensions.

## 1.3.1 Failure to Commence

In the event the Contractor or his designated representative(s) fail to commence and diligently pursue any work required under this clause, and in a manner pursuant to the requirements thereof, the Contracting Officer shall have the right to demand that said work be performed under the Performance Bond by making written notice on the surety. If the surety fails or refuses to perform the obligation it assumed under the Performance Bond, the Contracting Officer shall have the work performed by others, and after completion of the work, may demand reimbursement of any or all expenses incurred by the Government while performing the work, including, but not limited to administrative expenses.

## 1.4 PRE-WARRANTY CONFERENCE:

Prior to contract completion and at a time designated by the Contracting Officer, the Contractor shall meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of this specification. Communication procedures for Contractor notification of warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer for the execution of the construction warranty shall be reviewed at this meeting. The Contractor shall provide names, addresses, and telephone numbers of all subcontractors, equipment suppliers, or manufacturers with specific designation of their area of

responsibilities if they are to be contacted directly on warranty corrections. This point of contact will be located within the local service area of the warranted construction, will be continuously available, and will be responsive to Government inquiry on warranty work action and status. Minutes of the meeting will be prepared by the Government and signed by both, the Contractor and the Contracting Officer. The minutes shall become part of the contract file.

PART 2 PRODUCTS - NOT APPLICABLE

PART 3 EXECUTION - NOT APPLICABLE

-- End of Section --

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUBMITTAL IDENTIFICATION

Submittals required are identified by SD numbers and titles as follows:

- SD-01 Preconstruction Submittals
- SD-02 Shop Drawings
- SD-03 Product Data
- SD-04 Samples
- SD-05 Design Data
- SD-06 Test Reports
- SD-07 Certificates
- SD-08 Manufacturer's Instructions
- SD-09 Manufacturer's Field Reports
- SD-10 Operation and Maintenance Data
- SD-11 Closeout Submittals

1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.2.1 Government Approved

Government 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. Submittal Register ENG FORM 4288, column labeled "Reviewer", this column is blank and is understood that the reviewer is "WA" (Washington Aqueduct).

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 used)

### PART 3 EXECUTION

#### 3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to 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

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 files, containing the computerized ENG Form 4288 and instructions on the use of the files. These submittal register files will be furnished on a separate diskette. Columns "c" through "f" have been completed by the Government; the Contractor shall complete columns "a" and "g" through "i" and submit the forms (hard copy plus associated electronic file) to the Contracting Officer for approval within 30 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.

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.

### 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)

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.

### 3.5 SUBMITTAL PROCEDURE

Six (6) copies of submittals shall be made as follows:

#### 3.5.1 Procedures

In the signature block provided on ENG Form 4025 the Contractor certifies that each item has been reviewed in detail and is correct and is in strict conformance with the contract drawings and specifications unless noted otherwise. The accuracy and completeness of submittals is the

responsibility of the Contractor. Any costs due to resubmittal of documents caused by inaccuracy, lack of coordination, and/or checking shall be the responsibility of the Contractor. This shall include the handling and review time on the part of the Government. Each variation from the contract specifications and drawings shall be noted on the form; and, attached to the form, the Contractor shall set forth, in writing, the reason for and description of such variations. If these requirements are not met, the submittal may be returned for corrective action.

### 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 (4) copies of the submittal will be retained by the Contracting Officer and two (2) 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:

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

-- End of Section --



## INSTRUCTIONS

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

**SUBMITTAL REGISTER**

CONTRACT NO.

TITLE AND LOCATION

Dalecarlia Flood Control Improvements

CONTRACTOR

A C T I V I T Y  N O	T R A N S M I T T A L  N O	S P E C T  S E C T	D E S C R I P T I O N	P A R A G R A P H  G #	G O V T  C L A S S I F I C A T I O N	C O N T R A C T O R : S C H E D U L E D A T E S			C O N T R A C T O R A C T I O N		A P P R O V I N G A U T H O R I T Y				M A I L E D T O C O N T R A C T O R / R E M A R K S		
						S U B M I T	B Y	B Y	A C T I O N	D A T E O F A C T I O N	D A T E F R O M C O N T R	D A T E F R O M O T H E R	D A T E F R O M O T H E R	D A T E O F A C T I O N		D A T E O F A C T I O N	
																	(g)
	01000		SD-01 Preconstruction Submittals														
			Title Evidence														
			Invoice Copies														
			Payment Evidence														
			Photographs	1.8													
			SD-03 Product Data														
			Cost or Pricing Data	1.6													
			SD-05 Design Data														
			Progress Schedule	1.2	G WA												
			Modified Chart		G WA												
	01050		SD-01 Preconstruction Submittals														
			Checklist	1.4.4	G WA												
			SD-05 Design Data														
			Survey Data	1.1	G WA												
	01060		SD-01 Preconstruction Submittals														
			Safety Supervisor	1.3	G WA												
			SD-07 Certificates														
			Language Certification	1.3													
			SD-09 Manufacturer's Field														
			Reports														
			Activity Phase Hazard Analysis	1.3	G WA												
			Plan														
			Outline Report														
			OSHA Log														
	01451		SD-01 Preconstruction Submittals														
			CQC Plan	3.2	G WA												

**SUBMITTAL REGISTER**

CONTRACT NO.

TITLE AND LOCATION

Dalecarlia Flood Control Improvements

CONTRACTOR

A C T I V I T Y  N O	T R A N S M I T T A L  N O	S P E C I F I C S E C T	D E S C R I P T I O N	P A R A G R A P H #	G O V E R N M E N T  C L A S S I F I C A T I O N	C O N T R A C T O R : S C H E D U L E D A T E S			C O N T R A C T O R A C T I O N		A P P R O V I N G A U T H O R I T Y				M A I L E D T O C O N T R A C T O R	R E M A R K S		
						S U B M I T	B Y	B Y	A C T I O N	D A T E O F	D A T E F R O M	D A T E F R O M	D A T E F R O M	D A T E F R O M			D A T E O F	D A T E O F
	01451		Phase Notification Request		G WA													
			CQC Mgr Qualification		G G													
			SD-05 Design Data Change Notification		G WA													
			Punchlist	3.8.1	G WA													
			Minutes	3.3														
			SD-06 Test Reports															
			Tests	3.7.1	G WA													
			Reports															
			Tests Performed	3.7.1	G WA													
			QC Records		G WA													
	01561		SD-05 Design Data															
			Facility Plan	1.9.4	G WA													
			Temporary Plan	1.9.5	G WA													
	01720		SD-02 Shop Drawings															
			Progress Prints		G WA													
			Final Prints		G WA													
			SD-03 Product Data															
			CADD Files		G WA													
	02230		SD-03 Product Data															
			Materials Other Than Saleable Timber															
	02232		SD-03 Product Data															
			Herbicide	2.1.1.1	G WA													
			SD-07 Certificates															

**SUBMITTAL REGISTER**

CONTRACT NO.

TITLE AND LOCATION

Dalecarlia Flood Control Improvements

CONTRACTOR

A C T I V I T Y  N O	T R A N S M I T T A L  N O	S P E C T  S E C T	D E S C R I P T I O N	P A R A G R A P H  G #	G O V T  C L A S S I F I C A T I O N	C O N T R A C T O R : S C H E D U L E D A T E S			C O N T R A C T O R A C T I O N		A P P R O V I N G A U T H O R I T Y				M A I L E D T O C O N T R A C T O R / A U T H O R I T Y	R E M A R K S			
						S U B M I T T E D  B Y	A P P R O V A L N E E D E D  B Y	M A T E R I A L N E E D E D  B Y	A C T I O N C O D E	D A T E O F A C T I O N	D A T E R C D F R O M C O N T R	D A T E F W D T O A P P R A U T H	D A T E R C D F R O M O T H E R R E V I E W E R	D A T E R C D F R O M O T H E R R E V I E W E R			A C T I O N C O D E	D A T E O F A C T I O N	D A T E R C D F R O M A P P R
		02232	Herbicide Registration	2.1.3	G WA														
		02316	SD-06 Test Reports																
			Field Density Tests	3.7.3	G WA														
			Testing of Fill Materials	3.7.2	G WA														
		02821	SD-02 Shop Drawings																
			Shop Drawings		G WA														
			SD-07 Certificates																
			Chain Link Fence	2.1.1															
			Certificate of Compliance		G WA														

## SECTION 01420

## 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 standards producing organization, (e.g. ASTM B 564 Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

## 1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents 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 standards producing 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: 248-848-3701  
Internet: <http://www.aci-int.org>  
AOK 6/00  
LOK 6/00

## ACOUSTICAL SOCIETY OF AMERICA (ASA)

2 Huntington Quadrangle  
Melville, NY 11747-4502  
Ph: 516-576-2360  
Fax: 516-576-2377  
email: [asa@aip.org](mailto:asa@aip.org)  
Internet: <http://asa@aip.org>  
AOK 6/00  
LOK 6/00

## AGRICULTURAL MARKETING SERVICE (AMS)

Seed Regulatory and Testing Branch  
USDA, AMS, LS Div.  
Room 209, Bldg. 306, BARC-East  
Beltsville, MD 20705-2325

Ph: 301-504-9430  
Fax: 301-504-8098  
Internet: <http://www.ams.usda.gov/lsg>  
e-mail: [james\\_p\\_tripplitt@usda.gov](mailto:james_p_tripplitt@usda.gov)  
AOK 6/00  
LOK 6/00

AIR CONDITIONING AND REFRIGERATION INSTITUTE (ARI)

4301 North Fairfax Dr., Suite 425  
ATTN: Pubs Dept.  
Arlington, VA 22203  
Ph: 703-524-8800  
Fax: 703-528-3816  
E-mail: [ari@ari.org](mailto:ari@ari.org)  
Internet: [www.ari.org](http://www.ari.org)  
AOK 6/00  
LOK 6/00

AIR CONDITIONING CONTRACTORS OF AMERICA (ACCA)

1712 New Hampshire Avenue, NW  
Washington, DC 20009  
Ph: 202-483-9370  
FAX: 202-588-1217  
Intrnet: [www.acca.org](http://www.acca.org)  
AOK 6/00  
LOK 6/00

AIR DIFFUSION COUNCIL (ADC)

104 So. Michigan Ave., No. 1500  
Chicago, IL 60603  
Ph: 312-201-0101  
Fax: 312-201-0214  
Internet: [www.flexibleduct.org](http://www.flexibleduct.org)  
AOK 6/00  
LOK 6/00

AIR MOVEMENT AND CONTROL ASSOCIATION (AMCA)

30 W. University Dr.  
Arlington Heights, IL 60004-1893  
Ph: 847-394-0150  
Fax: 847-253-0088  
Internet: [www.amca.org](http://www.amca.org)  
AOK 6/00  
LOK 6/00

ALUMINUM ASSOCIATION (AA)

900 19th Street N.W.  
Washington, DC 20006

Ph: 202-862-5100  
Fax: 202-862-5164  
Internet: www.aluminum.org  
AOK 6/00  
LOK 6/00

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

1827 Walden Ofc. Sq.  
Suite 104  
Schaumburg, IL 60173-4268  
Ph: 847-303-5664  
Fax: 847-303-5774  
Internet: www.aamanet.org  
AOK 6/00  
LOK 6/00

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS  
(AASHTO)

444 N. Capital St., NW, Suite 249  
Washington, DC 20001  
Ph: 800-231-3475 202-624-5800  
Fax: 800-525-5562 202-624-5806  
Internet: www.aashto.org  
AOK 6/00  
LOK 6/00

NOTE: AASHTO documents with numbers beginning with M or T are available only in Standard Specifications for Transportation Materials and Methods of Sampling and Testing, 1998 @\$289.00\X

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

P.O. Box 12215  
1 Davis Drive  
Research Triangle Park, NC 27709-2215  
Ph: 919-549-8141  
Fax: 919-549-8933  
Internet: aatcc.org  
AOK 6/00  
LOK 6/00

AMERICAN BEARING MANUFACTURERS ASSOCIATION (AFBMA)

1200 19th Street, NW, Suite 300  
Washington, DC 20036-2422  
Ph: 202-429-5155  
Fax: 202-828-6042  
Internet: abma-dc.org  
AOK 6/00  
LOK 6/00

AMERICAN BOILER MANUFACTURERS ASSOCIATION (ABMA)

950 North Glebe Road, Suite 160  
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Cumberland Center, ME 04021  
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e-mail: [nelma@javanet.com](mailto:nelma@javanet.com)  
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e-mail: [publications@sae.org](mailto:publications@sae.org)  
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## SOUTHERN PINE INSPECTION BUREAU (SPIB)

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Ph: 850-434-2611  
Fax: 850-433-5594  
e-mail: [spib@spib.org](mailto:spib@spib.org)  
Internet: [www.spib.org](http://www.spib.org)  
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## THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)

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NOTE: SSPC documents, except as noted otherwise, are available only as a part of the 1995 Steel Structures Painting Manual, 7th Edition @ \$115.00.

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e-mail: [literature@tileusa.com](mailto:literature@tileusa.com)  
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## WATER ENVIRONMENT FEDERATION (WEF)

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WATER QUALITY ASSOCIATION (WQA)

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e-mail: info@mail.wqa.org  
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-- End of Section --

## 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	(1999b) 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	(1998a) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

## 1.2 PAYMENT

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

## 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-01 Preconstruction Submittals

CQC Plan; G WA.

Identifies personnel, procedures, control, instructions, test, records, and forms to be used.

Phase Notification

The Government shall be notified in a specified amount of time in advance of beginning the preparatory control phase.

Request; G WA.

The requesting of specialized individuals in specific disciplines to perform quality control.

CQC Mgr Qualification; G WA.

The evaluation of the project to determine the level of CQC System Manager required.

CQC Mgr Qualification; G WA.

The evaluation of the project to determine the level of CQC System Manager required.

SD-05 Design Data

Change Notification; G WA

Any changes made by the Contractor.

Punchlist; G WA

Near the completion of all work, the CQC System Manager shall prepare a list of items which do not conform to the approved drawings and specifications.

Minutes

Prepared by the Government and signed by both the Contractor and the Contracting Officer and shall become a part of the contract file.

SD-06 Test Reports

Tests; G WA

Specified or required tests shall be done by the Contractor to verify that control measures are adequate.

Reports

Results of tests taken.

Tests Performed; G WA

An information copy provided directly to the Contracting Officer.

QC Records; G WA.

Provide factual evidence that required quality control activities and/or tests have been performed.

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 site project superintendent 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 the quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for the overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable to the Contracting Officer, and shall be responsible for all construction and construction related activities at the site.

### 3.2 CQC PLAN

#### 3.2.1 General

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 60 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.

#### 3.2.2 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 the project 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. The Contractor shall include a copy of his proposed laboratory's latest Corps of Engineers inspection report in the Quality Control Plan. The inspection report details the tests that the lab has been validated to perform under Corps of Engineers contracts. (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.

### 3.2.3 Acceptance of Plan

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

### 3.2.4 Notification of Changes

After acceptance of the 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 14 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 safety and contract compliance. The Safety and Health Manager shall receive direction and authority from the CQC System Manager and shall serve as a member of the CQC staff. Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor's CQC staff shall maintain a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. The CQC staff shall be subject to acceptance by the Contracting Officer. The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, show drawing submittals, schedules and all other project documentation shall be promptly furnished to the CQC organization by the Contractor. The CQC organization shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to 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 construction person with a minimum of 3 years in related work. 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 assigned as System Manager but may have duties as project superintendent in addition to quality control. 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 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

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 72 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 Laboratory Approval

The Contractor shall use a testing laboratory that has been previously approved by the Corps of Engineers or obtain approval for a laboratory established at the project site. Approved laboratories are listed at the following web site: <http://www.wes.army.mil/SL/MTC/ValStatesTbl.htm> If the Contractor elects to set up an on-site laboratory at the project site, the Contractor will be assessed \$4500.00 for the cost of inspection of this lab by the Corps of Engineers.

### 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.

## 3.8 COMPLETION INSPECTION

### 3.8.1 Punch-Out Inspection

Near the completion of all work or any increment thereof established by a completion time stated in the Special Clause in Section 00800 of the Solicitation entitled "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the CQC System Manager shall conduct an inspection of the work and develop a punchlist of items which do not conform to the approved drawings and specifications. Such a list of deficiencies shall be included in the CQC documentation, as required by paragraph DOCUMENTATION below, and shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. 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 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 Base/Post Civil Facility Engineer 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 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. Off-site surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and/or specifications.

j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 24 hours after the date 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 SAMPLE FORMS

Sample forms enclosed at the end of this section.

### 3.11 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.

-- End of Section --

Contractor's Name:	_____
Address:	_____ _____
Phone Number:	_____

CONSTRUCTION QUALITY CONTROL REPORT

PROJECT NAME: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CONTRACT NUMBER: \_\_\_\_\_ REPORT NO.: \_\_\_\_\_

SUPERINTENDENT: _____			
TYPE OF WORKERS	NUMBER	TYPES OF CONSTRUCTION EQUIPMENT ON SITE	NUMBER
SUBCONTRACTORS			
COMPANY	RESPONSIBILITY	FOREMAN	NO. OF WORKERS
TOTALS			
NO. OF WORKERS TODAY	MANHOURS TODAY	MANHOURS FOR THIS PERIOD	
CONTRACT MATERIALS AND EQUIPMENT DELIVERED TO SITE:			
WEATHER: _____		SITE CONDITIONS: _____	
DID A DELAY OR WORK STOPPAGE OCCUR TODAY? _____ IF YES, EXPLAIN.			
HAS ANYTHING DEVELOPED IN THE WORK WHICH MAY LEAD TO A CHANGE OR FINDING OF FACT? _____ IF YES, EXPLAIN.			

DESCRIPTION OF ALL WORK PERFORMED TODAY  
(LIST BY DEFINABLE FEATURES OF WORK)

PREPARATORY INSPECTION:

LIST ALL INSPECTIONS BY SUBJECT AND SPECIFICATION LOCATION.  
ATTACH MINUTES OF MEETING AND LIST OF ALL ATTENDEES.

HAVE ALL REQUIRED SUBMITTALS AND SAMPLES OF CONSTRUCTION BEEN  
APPROVED.

DO THE MATERIALS AND EQUIPMENT TO BE USED CONFORM TO THE SUBMITTALS?

HAS ALL PRELIMINARY WORK BEEN INSPECTED, TESTED, AND COMPLETED?

TEST REQUIRED AND INSPECTION TECHNIQUES TO BE EXECUTED TO PROVE  
CONTRACT COMPLIANCE (INCLUDE BOTH EXPECTED AND ACTUAL RESULTS)

HAS A PHASE HAZARD ANALYSIS BEEN PERFORMED?

COMMENTS AND DEFICIENCIES NOTED AND CORRECTIVE ACTIONS TAKEN:

ALL INSTRUCTIONS RECEIVED FROM QA PERSONNEL AND ACTIONS TAKEN:

JOB SAFETY (INCLUDE MEETINGS HELD AND DEFICIENCIES NOTED WITH CORRECTIVE ACTIONS):

INITIAL INSPECTION:

LIST ALL INSPECTIONS BY SUBJECT AND SPECIFICATION LOCATION.  
COMMENTS AND/OR DEFICIENCIES NOTED AND CORRECTIVE ACTION TAKEN:

FOLLOW-UP INSPECTION:

LIST ALL INSPECTIONS BY SUBJECT AND SPECIFICATION LOCATION.  
COMMENTS AND/OR DEFICIENCIES NOTED AND CORRECTIVE ACTION TAKEN.

SIGNATURE: \_\_\_\_\_  
QUALITY CONTROL REPRESENTATIVE/MANAGER

THE ABOVE REPORT IS COMPLETE AND CORRECT. ALL MATERIALS AND EQUIPMENT USED AND ALL WORK PERFORMED DURING THIS REPORTING PERIOD ARE IN COMPLIANCE WITH THE CONTRACT SPECIFICATIONS, AND SUBMITTALS, EXCEPT AS NOTED ABOVE.

SIGNATURE: \_\_\_\_\_  
CONTRACTOR'S APPROVED AUTHORIZED REPRESENTATIVE

## SECTION 01510

## TEMPORARY CONSTRUCTION ITEMS

## PART 1 GENERAL

## 1.1 General

The work covered by this section consists of furnishing all labor, materials, equipment, and services and performing all work required for or incidental to the items herein specified. No separate payment will be made for the construction and services required by this section, and all costs in connection therewith shall be included in the overall cost of the work unless specifically stated otherwise.

## 1.2 PROJECT SIGN: (AUG 1974)

A project sign shall be provided and erected at a location designated by the Contracting Officer. The sign shall conform to the requirements as shown on Attachment No. 1, a copy of which is attached hereto. The sign shall be erected as soon as possible and within 15 days after the date of receipt of notice to proceed. Upon completion of the project, the sign shall be removed and disposed of by the Contractor. (CENAB)

## 1.3 SAFETY SIGN (AUG 1974)

A safety sign shall be provided and erected at a location designated by the Contracting Officer. The sign shall conform to the requirements as shown on Attachment No. 2, a copy of which is attached hereto. The sign shall be erected as soon as possible and within 15 days after the date of receipt of notice to proceed. The data required by the sign shall be corrected daily, with light colored metallic or non-metallic numerals. Numerals, including mounting hardware, shall be subject to the approval of the Contracting Officer. Upon completion of the project, the sign shall be removed and disposed of by the Contractor. (CENAB)

## 1.4 BARRICADES

The Contractor shall erect and maintain temporary barricades to limit public access to hazardous areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, clearly visible with adequate illumination to provide sufficient visual warning of the hazardous areas during both day and night. (CENAB)

## 1.5 MEASUREMENT AND PAYMENT

No separate measurement and payment will be made for the work performed in this Section 01510, TEMPORARY CONSTRUCTION ITEMS, specified herein, and all costs in connection therewith shall be considered a subsidiary obligation of the Contractor, and shall be included in the overall cost of the work.

PART 2 PRODUCT  
NOT APPLICABLE

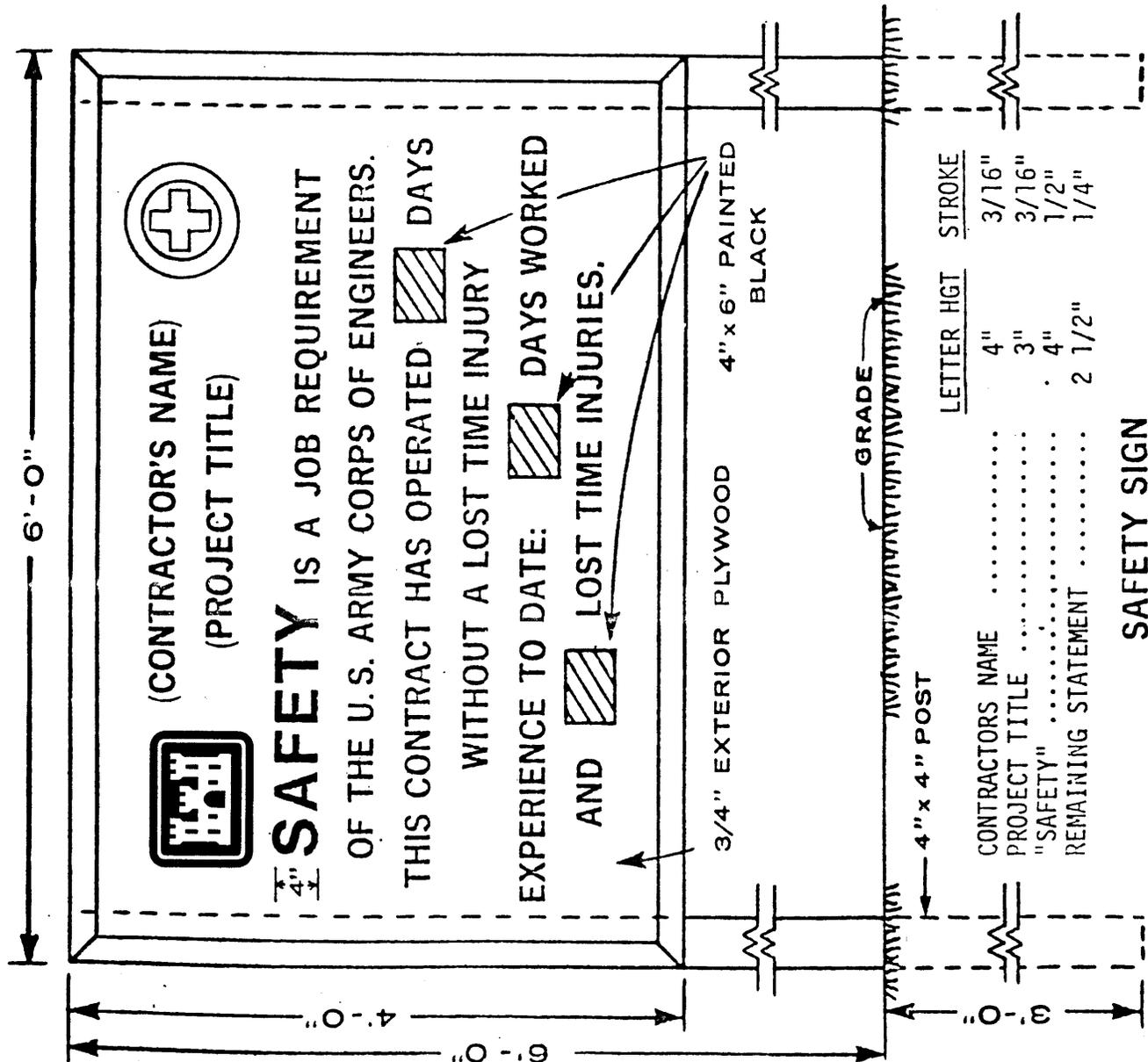
PART 3 EXECUTION  
NOT APPLICABLE

ATTACHMENTS:

Attachment 1 Project Sign

Attachment 2 Safety Sign

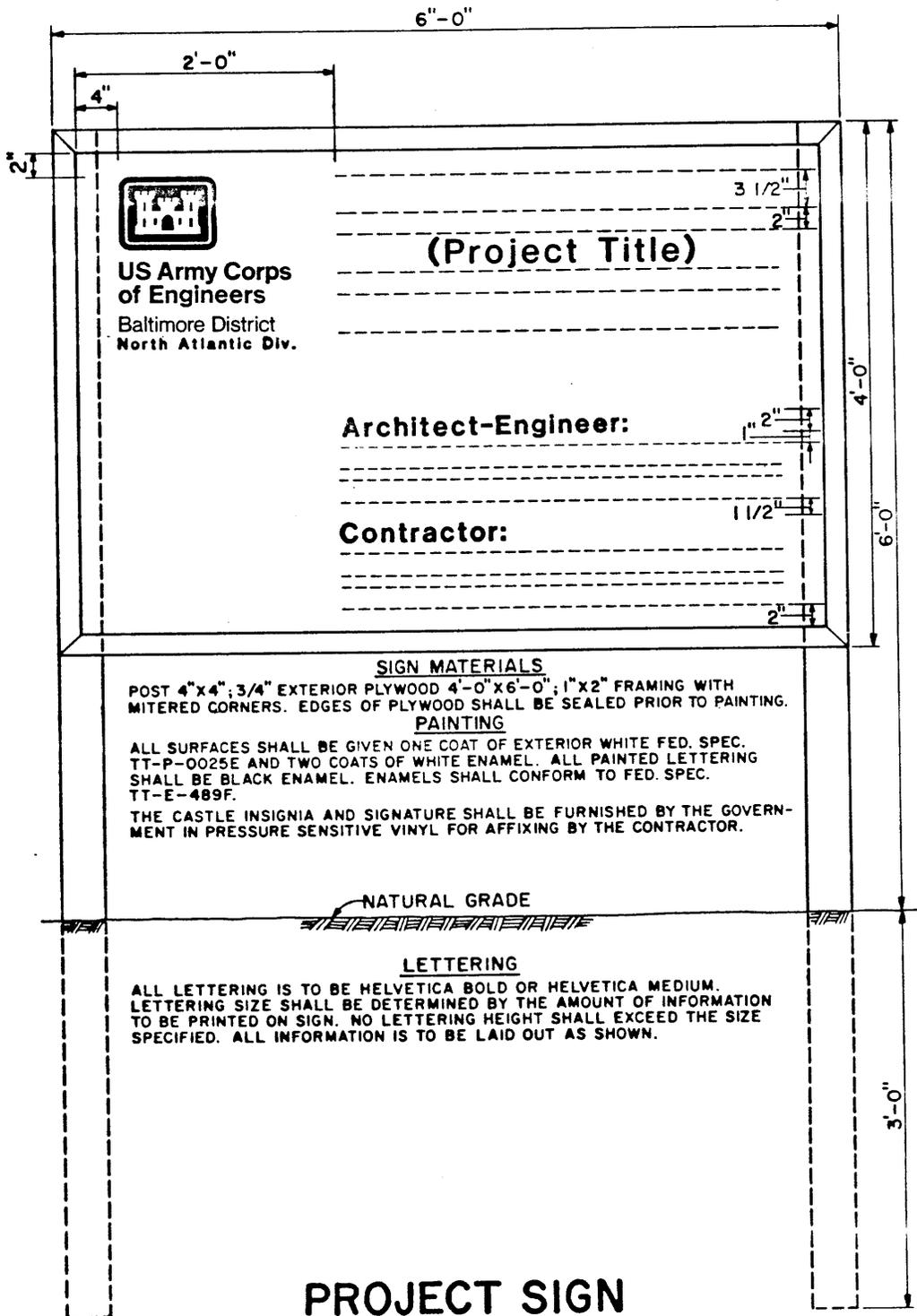
-- End of Section --



**SIGN MATERIALS**

POST 4"x4"; 3/4" EXTERIOR PLYWOOD 4'-0"x6'-0", 2"x2" FRAMING WITH MITERED CORNERS. FRAMING ENCLOSED EDGES OF PLYWOOD AND BE INSTALLED FLUSH ON BACK SIDE AND PROJECTING IN FRONT. OUTSIDE WHITE, HOUSE PAINT-2 COATS; BOTH SIDES AND EDGES; COLORS IN OIL FOR LETTERING - LAMP BLACK AND BULLETIN RED; CASTLE SHALL BE RED; LETTERING SHALL BE BLACK; THE CROSS SHALL BE GREEN

THE CASTLE INSIGNIA SHALL BE FURNISHED BY THE GOVERNMENT IN PRESSURE SENSITIVE VINYL FOR AFFIXING BY THE CONTRACTOR.



## SECTION 01561

## ENVIRONMENTAL PROTECTION

## PART 1 GENERAL

The work covered by this section consists of furnishing all labor, materials and equipment and performing all work required for the prevention of environmental pollution during, and as the result of, construction operations under this contract except for those measures set forth in the Technical Provisions of these specifications. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life or affect other species of importance to man. The control of environmental pollution requires consideration of air, water, and land.

## 1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-05 Design Data

Facility Plan; G WA.

Location of storage and service facilities.

Temporary Plan; G WA.

Temporary excavation and embankments.

## 1.2 APPLICABLE REGULATIONS

The Contractor and his subcontractors in the performance of this contract, shall comply with all applicable Federal, State, and local laws and regulations concerning environmental pollution control and abatement in effect on the date of this solicitation, as well as the specific requirements stated elsewhere in the contract specifications.

## 1.3 NOTIFICATION

The Contracting Officer will notify the Contractor of any non-compliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. 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 time lost due to any such stop order shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later

determined that the Contractor was in compliance.

#### 1.4 SUBCONTRACTORS

Compliance with the provisions of this section by subcontractors will be the responsibility of the Contractor.

#### 1.5 PROTECTION OF WATER RESOURCES

The Contractor shall not pollute streams, lakes or reservoirs with fuels, oils, bitumens, calcium chloride, acid construction wastes or other harmful materials. All work under this contract shall be performed in such a manner that objectionable conditions will not be created in streams through or adjacent to the project areas.

#### 1.6 EROSION AND SEDIMENTATION CONTROL

The Contractor shall accomplish the erosion and sedimentation control in accordance with the contract drawings. At the outset of construction, the Contractor will be required to accept by signature a Transfer of Authority letter. The acceptance of the Transfer of Authority places responsibility on the Contractor to fully adhere to the provisions of the General Permit for erosion and sedimentation control and stormwater management.

#### 1.7 BURNING

Burning will not be allowed. only if permitted in other sections of the specifications or authorized in writing by the Contracting Officer. The specific time, location and manner of burning shall be subject to the approval of the Contracting Officer. Fires shall be confined to a closed vessel, guarded at all times and shall be under constant surveillance until they have burned out or have been extinguished. All burning shall be so thorough that the materials will be reduced to ashes.

#### 1.8 DUST CONTROL

The Contractor shall maintain all work area free from dust which would contribute to air pollution. Approved temporary methods of stabilization consisting of sprinkling, chemical treatment, light bituminous treatment or similar methods will be permitted to control dust. Sprinkling, where used, must be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs.

#### 1.9 PROTECTION OF LAND RESOURCES

##### 1.9.1 General

It is intended that the land resources within the project boundaries and outside the limits of permanent work performed under this contract be preserved in their present condition or be restored to a condition after completion of construction that will appear to be natural and not detract from the appearance of the project. Insofar as possible, the Contractor shall confine his construction activities to areas defined by the plans and

specifications or to be cleared for other operations. The following additional requirements are intended to supplement and clarify the requirements of the CONTRACT CLAUSES:

#### 1.9.2 Protection of trees retained

##### 1.9.2.1 Contractors Responsibility

The Contractor shall be responsible for the protection of the tops, trunks and roots of all existing trees that are to be retained on the site. Protection shall be maintained until all work in the vicinity has been completed and shall not be removed without the consent of the Contracting Officer. If the Contracting Officer finds that the protective devices are insufficient, additional protection devices shall be installed.

##### 1.9.2.2 Stockpiling

Heavy equipment, vehicular traffic, or stockpiling of any materials shall not be permitted within the drip line of trees to be retained.

##### 1.9.2.3 Storage

No toxic materials shall be stored within 100 feet from the drip line of trees to be retained.

##### 1.9.2.4 Confined Area

Except for areas shown on the plans to be cleared, the Contractor shall not deface, injure, or destroy trees or shrubs, nor remove or cut them without special authority. Existing near by trees shall not be used for anchorage unless specifically authorized by the Contracting Officer. Where such special emergency use is permitted, the Contractor shall first adequately protect the trunk with a sufficient thickness of burlap over which softwood cleats shall be tied.

##### 1.9.2.5 Tree Defacing

No protective devices, signs, utility boxes or other objects shall be nailed to trees to be retained on the site.

#### 1.9.3 Restoration of Landscape Damage

Any trees or other landscape feature scarred or damaged by the Contractor's operations shall be restored as nearly as possible to its original condition at the Contractor's expense. The Contracting Officer will decide what method of restoration shall be used, and whether damaged trees shall be treated and healed or removed and disposed of. All scars made on trees, designated on the plans to remain, and all cuts for the removal of limbs larger than 1-inch in diameter shall be coated as soon as possible with an approved tree wound dressing. All trimming or pruning shall be performed in an approved manner by experienced workmen with saws or pruning shears. Tree trimming with axes will not be permitted. Where tree climbing is necessary, the use of climbing spurs will not be permitted. Trees that are to remain, either within or outside established

clearing limits, that are subsequently damaged by the Contractor and are beyond saving in the opinion of the Contracting Officer, shall be immediately removed and replaced with a nursery-grown tree of the same species. Replacement trees shall measure no less than 2 inches in diameter at 6 inches above the ground level.

#### 1.9.4 Location of Storage and Services Facilities

The location on Government property of the Contractor's storage and service facilities, required temporarily in the performance of the work, shall be upon cleared portions of the job site or areas to be cleared. The preservation of the landscape shall be an imperative consideration in the selection of all sites and in the construction of buildings. A facility plan showing storage and service facilities shall be submitted for approval to the Contracting Officer. Where buildings or platforms are constructed on slopes, the Contracting Officer may require cribbing to be used to obtain level foundations. Benching or leveling of earth may not be allowed, depending on the location of the proposed facility.

#### 1.9.5 Temporary Excavation and Embankment

If the Contractor proposes to construct temporary roads, embankments or excavations for plant and/or work areas, he shall submit a temporary plan for approval prior to scheduled start of such temporary work.

#### 1.10 MEASUREMENT AND PAYMENT

Except as noted in paragraph, PERFORMANCE AND PAYMENT BOND REIMBURSEMENT above, no separate measurement and payment will be made for the work performed in this Section 01561, ENVIRONMENTAL PROTECTION specified herein and all costs in connection therewith shall be considered a subsidiary obligation of the Contractor, and shall be included in the overall cost of the work.

PART 2 PRODUCT  
NOT APPLICABLE

PART 3 EXECUTION  
NOT APPLICABLE

-- End of Section --

## SECTION 01720

## AS-BUILT DRAWINGS - CADD

## PART 1 GENERAL

## 1.1 Preparation

This section covers the preparation of as-built drawings complete, as a requirement of this contract. The terms "drawings," "contract drawings," "drawing files," and "final as-built drawings" refer to a set of computer-aided design and drafting (CADD) contract drawings in electronic file format which are to be used for as-built drawings.

## 1.2 PROGRESS MARKED UP AS-BUILT PRINTS

The Contractor shall revise one set of paper prints to show the as-built conditions during the prosecution of the project. These as-built marked prints shall be kept current and available on the jobsite at all times. All changes from the contract plans which are made in the work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. The as-built marked prints will be jointly reviewed for accuracy and completeness by the Contracting Officer and a responsible representative of the construction Contractor prior to submission of each monthly pay estimate. If the Contractor fails to maintain the as-built drawings as specified herein, the Contracting Officer will deduct from the monthly progress payment an amount representing the estimated cost of maintaining the as-built drawings and will continue the monthly deduction of the 10% retainage even after 50% completion of the contract. This monthly deduction will continue until an agreement can be reached between the Contracting Officer and a representative of the Contractor regarding the accuracy and completeness of updated drawings. The prints shall show the following information, but not be limited thereto:

## 1.2.1 Location and Description

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.

## 1.2.2 Location and Dimensions

The location and dimensions of any changes within the building or structure.

## 1.2.3 Corrections

Correct grade, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.

Correct elevations if changes were made in site grading.

## 1.2.4 Changes

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, dimensions of equipment foundations, etc.

The topography, invert elevations and grades of all drainage installed or affected as a part of the project construction.

All changes or modifications which result from the final inspection.

#### 1.2.5 Options

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

#### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

##### SD-02 Shop Drawings

Progress Prints; G WA.

Preparation of two copies of as-builts from the Contractor to the Contracting Officer for review and approval.

Final Prints; G WA.

##### SD-03 Product Data

CADD Files; G WA.

Shall consist of two sets of completed as-built contract drawings on separate media consisting of both CADD files (compatible with AutoCAD release 2000) and a CALS Type 1, Group 4, Raster Image File of each contract drawing.

Receipt by the Contractor of the approved marked as-built prints.

#### 1.4 PRELIMINARY SUBMITTAL

At the time of final inspection, the Contractor shall prepare two copies of the progress as-built prints and these shall be delivered to the Contracting Officer for review and approval. These as-built marked prints shall be neat, legible and accurate. The review by Government personnel will be expedited to the maximum extent possible. Upon approval, one copy of the as-built marked prints will be returned to the Contractor for use in preparation of final as-built drawings. If upon review, the as-built marked prints 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 as-built marked prints to the Contracting Officer within ten (10) calendar days.

#### 1.5 DRAWING PREPARATION

##### 1.5.1 As-Built Drawings Approval

Upon approval of the as-built prints submitted, the Contractor will be furnished by the Government one set of contract drawings, with all amendments incorporated, to be used for as-built drawings. These contract drawings will be furnished on CD-ROM. These drawings shall be modified as may be necessary to correctly show all the features of the project as it has been constructed by bringing the contract set into agreement with the approved as-built prints, adding such additional drawings as may be necessary. These drawings are part of the permanent records of this project and the Contractor shall be responsible for the protection and safety thereof until returned to the Contracting Officer. Any drawings damaged or lost by the Contractor shall be satisfactorily replaced by the Contractor at no expense to the Government.

##### 1.5.2 Proficient Personnel

Only personnel proficient in the preparation of engineering CADD drawings to standards satisfactory and acceptable to the Government shall be employed to modify the contract drawings or prepare additional new drawings. All additions and corrections to the contract drawings shall be equal in quality to that of the originals. Line work, line weights, lettering, layering conventions, and symbols shall be the same as the original line work, line weights, lettering, layering conventions, and symbols. If additional drawings are required, they shall be prepared using the specified electronic file format applying the same guidance specified for original drawings. The title block and drawing border to be used for any new as-built drawings shall be identical to that used on the contract drawings. All additions and corrections to the contract drawings shall be accomplished using CADD media files supplied by the Government. These contract drawings will already be compatible with the Using Agency/Sponsor's system when received by the Contractor. The Using Agency/Sponsor uses AutoCAD Release 2000 and CAD Overlay 2000 CADD software system. The media files will be supplied on ISO 9660 Format CD-ROM. The Contractor is responsible for providing all program files and hardware necessary to prepare as-built drawings. The Contracting Officer will review all as-built drawings for accuracy and the Contractor shall make all required corrections, changes, additions, and deletions.

##### 1.5.3 Final Revisions

When final revisions have been completed, the cover sheet drawing shall show the wording "RECORD DRAWING AS-BUILT" followed by the name of the General Contractor in letters at least 3/16 inch. All other contract drawings shall be marked either "As-Built" drawing denoting no revisions on the sheet or "Revised As-Built" denoting one or more revisions. All original contract drawings shall be dated in the revision block (See ATTACHMENTS 1 and 2) at the end of this section - while the title block

sample attachments do not depict the contract drawings' title blocks, the sample revision blocks above these attachments are to be used as guidance in completing the actual contract drawings' revision blocks.

#### 1.6 FINAL REQUIREMENTS

After receipt by the Contractor of the approved marked as-built prints and the original contract drawing files the Contractor will, within 30 days for contracts less than \$5 million or 60 days for contracts \$5 million and above, make the final as-built submittal. The submittal shall consist of the following:

a) Two sets of the as-built contract drawings on separate CD's (ISO 9660 Format CD-ROM) consisting of the updated CADD files and a CALS Type 1 Group 4 Raster Image File of each contract drawing plate. The CALS files shall be exact duplicates of the full sized plots of the completed as-built contract drawings at a resolution of 400 dpi and may be either plotted to CALS files directly from the CADD files, or scanned to file from the prints.

b) Two sets of full size paper prints (plots) of the completed as-built contract drawings.

c) The return of the approved marked as-built prints.

They shall be complete in all details and identical in form and function to the contract drawing files supplied by the Government. Any translations or adjustments necessary to accomplish this is the responsibility of the Contractor. The Government reserves the right to reject any drawing files it deems incompatible with its CADD system. All paper prints, drawing files and storage media submitted will become the property of the Government upon final approval. Failure to submit as-built drawing files and marked prints as required herein shall be cause for withholding any payment due the Contractor under this contract. Approval and acceptance of final as-built drawings shall be accomplished before final payment is made to the Contractor.

#### 1.7 PAYMENT

No separate payment will be made for the as-built drawings required under this contract, and all costs in connection therewith shall be considered a subsidiary obligation of the Contractor.

PART 2 PRODUCT  
NOT APPLICABLE

PART 3 EXECUTION  
NOT APPLICABLE

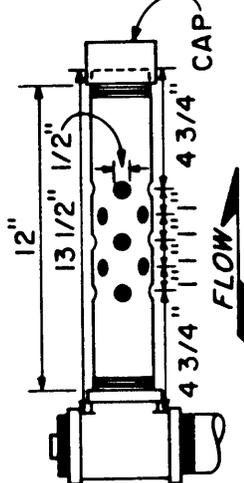
-- End of Section --



# RECORD DRAWING AS-BUILT XYZ CONTRACTOR

3	DEC 84	REVISED AS-BUILT	
2	29 APR 84	REVISED PER AMENDMENT NO.2 (DESCRIPTIVE)	A.E.P.
1	2 APR 84	REVISED PER AMENDMENT NO.1 (DESCRIPTIVE)	E.D.P.
REV	DATE	DESCRIPTION	BY
 <b>U.S. ARMY ENGINEER DISTRICT, BALTIMORE</b> <b>CORPS OF ENGINEERS</b> <b>BALTIMORE, MARYLAND</b>			
		FT. INDIANTOWN GAP	PENNSYLVANIA
<h2 style="margin: 0;">EQUIPMENT CONCENTRATION SITE &amp; AMSA</h2> <h1 style="margin: 0;">COVER SHEET</h1>			
		DRAWING NUMBER	PLATE
		X-000-00-00	3
SCALE: AS SHOWN		DATE: 1 APR 84	SHEET 1

NOTE: USE STANDARD  
2" STAINLESS STEEL  
PIPE & FITTINGS.  
EDGES OF HOLES TO  
BE FREE OF BURRS  
BUT NOT ROUNDED.  
TUBE TO BE FIXED  
IN A HORIZONTAL  
POSITION.



2 DESIGN FOR 2" STATIC TUBE  
NTS

## SECTION 02230

## CLEARING AND GRUBBING

## PART 1 GENERAL

## 1.1 DEFINITIONS

## 1.1.1 Clearing

Clearing shall consist of the felling, trimming, and cutting of trees into manageable sections and the satisfactory disposal of the trees and other vegetation designated for removal, including down timber, snags, brush, and rubbish occurring in the areas to be cleared.

## 1.1.1.1 Light Clearing

Light clearing is defined as clearing that can be performed using only hand-operated tools.

## 1.1.1.2 Medium Clearing

Medium clearing is defined as clearing that can be performed using a combination of hand operated tools and mechanized equipment. All clearing in this project is defined as medium clearing.

## 1.1.1.3 Heavy Clearing

Heavy clearing is defined as clearing that is performed using only mechanized equipment

## 1.1.2 Grubbing

Grubbing shall consist of the removal and disposal of stumps, roots larger than 3 inches in diameter, and matted roots from the designated grubbing areas.

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-03 Product Data

## Materials Other Than Saleable Timber

Written permission to dispose of such products on private property shall be filed with the Contracting Officer.

## PART 2 PRODUCTS (Not Applicable)

### PART 3 EXECUTION

#### 3.1 CLEARING

Clearing operations shall only be performed after both applications of the EPA-registered herbicide per Section 02232 HERBICIDE SPRAYING: Trees, stumps, roots, brush, and other vegetation in areas to be cleared shall be cut off and treated as specified below. Unless otherwise designated, trees over eight (8) inches in diameter shall be left standing. Trees designated to be left standing within the cleared areas shall be trimmed of dead branches 1-1/2 inches or more in diameter and shall be trimmed of all branches to the heights indicated or directed. Limbs and branches to be trimmed shall be neatly cut close to the bole of the tree or main branches. Cuts more than 1-1/2 inches in diameter shall be painted with an approved tree-wound paint. Vines shall be removed from trees and vegetation to be left standing. They shall be protected from damage incident to clearing, grubbing, and construction operations by the erection of barriers or by such other means as the circumstances require. The clearing work shall also include the removal and disposal of the vines on the concrete channel in Mill Creek.

##### 3.1.1 Clearing Along Creeks

All rip-rap areas on the east and west side of the East Creek and Mill Creek shall be completely cleared of vegetation. The non-rip-rap areas along both these creeks shall be cleared according to dimensions given in the drawings.

##### 3.1.2 Logs and Vines Removal

These items shall be removed from the same areas where the clearing will take place. Logs to be removed have been identified on Plate 5 of the contract drawings. Vines are mostly attached to the trees to be felled. Vine removal is required along approximately 120 feet of the Concrete Channel. The invasive vegetation (Japanese Knotweed) that populates some of the the rip-rap banks of East Creek and other areas shall be destroyed according to Section 02232 HERBICIDE SPRAYING:

##### 3.1.3 Brush Removal

Brush shall be removed from all the areas in which the clearing is done. Along the rip-rap areas, the Contractor shall remove brush by cutting it flush with the stones. In the non-rip-rap areas of the west and east sides of creeks, the population of brush varies, but for estimating purposes, the work is considered to be medium clearing. Weeds shall not be removed from the non-rip-rap areas.

#### 3.2 GRUBBING

Grubbing shall only be performed in the area shown on Plate 4 of the contract drawings after application of the herbicide per Section 02232 HERBICIDE SPRAYING: Material to be grubbed, together with logs and other organic or metallic debris not suitable for lawn areas, shall be removed to a depth of not less than 18 inches below the original surface level of the

ground in the area indicated to be grubbed. Depressions made by grubbing shall be filled with suitable material and compacted to make the surface conform with the original adjacent surface of the ground. The grubbed invasive vegetation, including its extensive rhizomes, shall be placed in sealed containers. Care shall be taken when transporting and disposing of this material, as minute clumps of the vegetation and form new colonies where ever they are deposited. Hence, it is recommended that tools and equipment used in this work be cleaned and decontaminated after this work. Top soil shall be applied to the grubbed area per Section 02316 FILLING AND BACKFILLING FOR UTILITIES SYSTEMS, after which the area shall be graded and hydroseeded. The Contractor shall be required to take the restored grubbed area through its first mowing prior to final acceptance by the Government.

### 3.3 TREE REMOVAL

Trees and stumps that are less than eight (8) inches in diameter shall be removed from the area designated for clearing and grubbing on Plate 4. This work shall include the felling of such trees and the removal of their stumps and roots as specified in paragraph GRUBBING. Trees shall be disposed of as specified in paragraph DISPOSAL OF MATERIALS.

In areas along the creeks as designated in the drawings, trees larger than 3 inches in diameter shall be cut 8-inches above the ground, 3" diameter trees or smaller shall be cut flush with the ground. The diameter of a tree shall be established by measuring it 6-inches above ground. The Work Schedule given on Plate 5 of the contract drawings has the number and sizes of trees to be felled and disposed of.

### 3.4 DISPOSAL OF MATERIALS

#### 3.4.1 Materials Other Than Saleable Timber

Logs, stumps, roots, brush, rotten wood, and other refuse from the clearing operations, shall be disposed of outside the limits of Government-controlled land at the Contractor's responsibility, except when otherwise directed in writing. Such directive will state the conditions covering the disposal of such products and will also state the areas in which they may be placed.

### 3.5 FINAL CLEAN-UP

On completion of the project, the Contractor shall ensure that all construction debris (i.e. trees, brush, stones, logs and other misc. objects) has been removed from the area with in the limits of work and that the area is clean, neat and tidy. All debris that resulted from the Contractor's operations shall be removed.

-- End of Section --

## SECTION 02232

## HERBICIDE SPRAYING

## PART 1 GENERAL

## 1.1 SUMMARY

This specification is intended to outline the requirements for the use of an EPA-registered herbicide to destroy invasive vegetation and other brush. The Contractor shall furnish all labor, materials, equipment and incidentals required to perform all operations in connection with the application of the herbicide in accordance with the areas shown on the contract drawings and as specified herein.

## 1.2 DESCRIPTION

The work shall consist of applying the herbicide in foliar spray along the areas indicated. The invasive vegetation has been identified as Japanese Knotweed (Botanical name is Polygonum Cuspidatum.) It is a fast growing herbaceous perennial with an extensive underground rhizome system that grows in clumps three to six feet in height.

## 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having an "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-03 Product Data

Herbicide; G WA.

A minimum of 30 days prior to schedule use, submit the proposed herbicide along with manufacturer's data showing the ingredients, directions for use, storage and disposal procedures, general information, mixing, procedures for preparing spray solution, application equipment and techniques, protective equipment and clothing, physical and chemical hazards.

## SD-07 Certificates

Herbicide Registration; G WA.

A minimum of 14 days prior to schedule use, manufacturer's certificate of compliance stating that the herbicide is EPA-registered and meets the requirements of this section.

## 1.4 DELIVERY AND STORAGE

Herbicide shall be delivered to the job site in the manufacturer's original unopened packages, clearly marked with the manufacturer's name, brand name,

and description of contents. Packages shall be stored in proper containments and be locked.

#### 1.5 CARE AND HANDLING

Herbicide containers shall be carefully handled to avoid punching and spilling within the reservoir area. Containments shall be provided around storage vessels. Under no circumstances shall the herbicide be applied directly to the Reservoir or either of the creeks.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

##### 2.1.1 Herbicide

##### 2.1.1.1 Ingredients

The herbicide shall contain at least 41% of the active ingredient Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt. This is equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

##### 2.1.2 General Information

The herbicide shall be a product that is postemergent and systemic with no soil residual activity. It shall be formulated as a water-soluble liquid containing surfactant. It must be applied using properly maintained and calibrated equipment capable of delivering the desired volumes.

##### 2.1.3 Registration of Herbicide

The Contractor shall use an EPA-registered herbicide. The Contractor shall submit this herbicide registration in a form of a letter from the manufacturer.

### PART 3 EXECUTION

#### 3.1 APPLICATION AREAS

The herbicide shall be sprayed throughout the area to be cleared and grubbed as shown on the drawings and along both banks of the levee structure in that area, including a 7,000 sf area on the reservoir side of the levee as directed by the Contracting Officer. Care shall be taken and provisions made to prevent herbicide from entering the Dalecarlia Reservoir. The herbicide shall also be applied in rip rap areas along the stream bank slopes of Mill Creek and East Creek. The Contractor shall put in place measures to ensure that no overspray goes beyond our perimeter fence line on to adjacent private property and shall be responsible for any resulting damage caused by such overspray.

##### 3.1.1 Timing

Herbicidal spray shall not commence before June 1, 2002. Two spray

applications of the herbicide shall be applied to all the areas indicated above. After each spray application, the vegetation shall be given at least six (6) weeks to allow for maximum absorption of the herbicide before any further treatment or cutting is performed.

### 3.2 MIXING

Mixing of the herbicide shall be done strictly according to manufacturer's instructions. Preparation of the herbicide and mixing procedures shall not be done inside the Dalecarlia Reservation.

### 3.3 RAINFASTNESS

Heavy rainfall soon after application may wash this product off of the foliage. Therefore, the Contractor shall perform each application when there is no local meteorological forecasts of rain in the following 48 hours after each application.

### 3.4 WIND FACTOR

In addition to the rain factor, the Contractor shall consider the wind factor. Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE. No spraying shall be done when wind is blowing toward the Dalecarlia Reservoir.

### 3.5 PROTECTION OF TREES

Prior to spraying the herbicide, the Contractor shall protect the trunks of trees in the area that are to remain to prevent their injury or destruction. The trunks of such trees within the spray zone shall be wrapped with plastic or other means approved by the Contracting Officer.

### 3.6 SPRAYING

The herbicide shall be applied in a manner recommended by the manufacturer, such that all foliage within the application zone is sprayed. Application shall be made on a spray-to-wet basis. For the best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff and only coarse sprays shall be used. Within seven (7) days of application, most perennial weeds show visible effects of the application. Therefore, the Contractor shall inspect the sprayed area within this time frame and apply herbicide to foliage that were missed. Extremely cool or cloudy weather following treatment may slow activity of the herbicide and delay development of visual symptoms. Visible effects are a gradual witting yellowing of the plant which advances to complete browning of the above-ground growth and deterioration of underground plant parts.

### 3.6.1 Spraying Concentrations

For hand-held and high-volume spray equipment, the Contractor shall use a 2 percent solution of the herbicide. For low-volume spray equipment, the Contractor shall use a 5 to 10 percent solution of the herbicide. Spray coverage must be uniform with at least 50 percent of the foliage contacted. To ensure adequate spray coverage, in areas where the invasive vegetation exists and foliage is thick and dense, both sides of the foilage should be sprayed.

### 3.6.2 Dead Vegetation Removal

Four (4) weeks after application of the first spray and six (6) weeks after application of the second spray, the Contractor shall remove and haul off dead vegetation from the areas sprayed. Once spraying is complete and the dead vegetation has been removed, the respective areas shall be grubbed, fine graded and hydroseeded as required.

### 3.7 DISPOSAL

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State, or local procedures.

-- End of Section --

## SECTION 02316

## FILLING AND BACKFILLING FOR UTILITIES SYSTEMS

## 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 1556	(1990; R 1996) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(1998) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu. m.))
ASTM D 2167	(1994) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D 2487	(1998) Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 2922	(1996) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 3017	(1988; R1996e1) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)

## 1.2 DEGREE OF COMPACTION

Degree of compaction shall be expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557.

## 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-06 Test Reports

Field Density Tests; G WA  
Testing of Fill Materials; G WA

Copies of all laboratory and field test reports within 24 hours of the completion of the test.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### 2.1.1 Satisfactory Materials

Satisfactory materials shall comprise any materials classified by ASTM D 2487 as GW, GP, GM, GP-GM, GW-GM, GC, GP-GC, GM-GC, SW, SP, SM, SW-SM, SP-SM, SP-SC.

#### 2.1.2 Unsatisfactory Materials

Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Unsatisfactory materials also include man-made fills, trash, refuse, or backfills from previous construction. Unsatisfactory material also includes material classified as satisfactory which contains root and other organic matter, frozen material, and stones larger than 3 inches. The Contracting Officer shall be notified of any contaminated materials.

#### 2.1.3 Cohesionless and Cohesive Materials

Cohesionless materials shall include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials shall include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM and SM shall be identified as cohesionless only when the fines are nonplastic.

#### 2.1.4 Unyielding Material

Unyielding material shall consist of rock and gravelly soils with stones greater than 3 inches in any dimension or as defined by the pipe manufacturer, whichever is smaller.

#### 2.1.5 Unstable Material

Unstable material shall consist of materials too wet to properly support the utility pipe, conduit, or appurtenant structure.

#### 2.1.6 Initial Backfill Material

Initial backfill shall consist of or satisfactory materials free from rocks 2 inches or larger in any dimension or free from rocks of such size as recommended by the pipe manufacturer, whichever is smaller.

#### 2.1.7 Rip Rap Bedding Aggregate

The bedding aggregate shall be CR-6 material and shall conform to the Maryland Department of Transportation, Materials Specification (DOT), latest edition.

#### 2.1.8 Rip Rap

Rip Rap shall consist of durable, sound unweathered rock. The rip rap shall be free of seams, cracks, or other structural defects and shall comply to ASTM C 295, CRD-C 107, CRD-C 137, CRD-C 148, CRD-C 145. The rip rap stones shall be generally rhombohedron-shaped and be relatively flat on the two major and opposite sides. The nominal thickness of the rip rap shall be 7 to 11 inches. The Contractor shall submit to the Government in lieu of tests a document signed by the quarry's owner or person with authority, which confirms that the stones meet or exceed the specifications above.

### PART 3 EXECUTION

#### 3.1 EXCAVATION

##### 3.1.1 Bottom Preparation

The ground surface shall be accurately graded to provide uniform bearing and support for the bottom quadrant of each section of the pipe. Bell holes shall be excavated to the necessary size at each joint or coupling to eliminate point bearing. Stones of 2 inches or greater in any dimension, or as recommended by the pipe manufacturer, whichever is smaller, shall be removed to avoid point bearing.

##### 3.1.2 Stockpiles

Stockpiles of satisfactory shall be placed and graded as specified. Stockpiles shall be kept in a neat and well drained condition, giving due consideration to drainage at all times. The ground surface at stockpile locations shall be cleared, grubbed, and sealed by rubber-tired equipment, excavated satisfactory and unsatisfactory materials shall be separately stockpiled. Stockpiles of satisfactory materials shall be protected from contamination which may destroy the quality and fitness of the stockpiled material. If the Contractor fails to protect the stockpiles, and any material becomes unsatisfactory, such material shall be removed and replaced with satisfactory material from approved sources at no additional cost to the Government. Locations of stockpiles of satisfactory materials shall be subject to prior approval of the Contracting Officer.

#### 3.2 SELECTION OF BORROW MATERIAL

Borrow material shall be selected to meet the requirements and conditions of the particular fill or embankment for which it is to be used. Borrow material can be obtained from the borrow areas on government-controlled land within two miles of the limits of the fill site with written approval.

Borrow material from approved sources on Government-controlled land may be obtained without payment of royalties. Necessary clearing, grubbing, and satisfactory drainage of borrow pits and the disposal of debris thereon shall be considered related operations to the borrow excavation. If borrow areas are on government-controlled land, silt fence shall be installed around the disturbed area and the disturbed area shall be re-graded to blend into the surrounding grades and hydroseeded on completion of the project.

### 3.3 OPENING AND DRAINAGE OF EXCAVATION AND BORROW PITS

The Contractor shall notify the Contracting Officer sufficiently in advance of the opening of any excavation or borrow pit to permit elevations and measurements of the undisturbed ground surface to be taken. Except as otherwise permitted, borrow pits and other excavation areas shall be excavated providing adequate drainage. Overburden and other spoil material shall be transported to designated spoil areas or otherwise disposed of as directed. Borrow pits shall be neatly trimmed and drained after the excavation is completed. The Contractor shall ensure that excavation of any area, operation of borrow pits, or dumping of spoil material results in minimum detrimental effects on natural environmental conditions.

### 3.4 FILL AND COMPACTION

Fill material shall consist of satisfactory material, or initial backfill material as required. Fill shall be placed in layers not exceeding 6 inches loose thickness for compaction by hand operated machine compactors, and 8 inches loose thickness for other than hand operated machines, unless otherwise specified. Each layer shall be compacted to at least 95 percent maximum density for cohesionless soils and 90 percent maximum density for cohesive soils, unless otherwise specified.

### 3.5 TOP SOIL

On completion of the grubbing work as shown on Plate 4 of the contract drawings, the Contractor shall place 6" of top soil over the entire grubbed area. The top soil for this purpose shall be excavated and transported from an area designated by the Government that is adjacent to the access gate off Little Falls Road. The disturbed area shall be protected by silt fence while this work is on-going and then graded on completion. The grubbed area shall also be graded, with all stones larger than 1-3/4" removed, to produce a smooth lawn surface. On completion of this work, both the disturbed area and the entire grubbed area shall be hydroseeded. The Contractor shall be required to take the restored grubbed area through its first mowing prior to final acceptance by the Government.

### 3.6 RIP RAP PLACEMENT

Rip Rap shall be installed on well-graded, compacted ground after the installation of the aggregate bedding material to the depths shown on the drawings. The rip rap shall be placed as shown in the contract drawings or in the areas designated by the Contracting Officer.

### 3.7 TESTING

Testing shall be the responsibility of the Contractor and shall be performed at no additional cost to the Government.

#### 3.7.1 Testing Facilities

Tests shall be performed by an approved commercial testing laboratory or may be tested by facilities furnished by the Contractor. No work requiring testing will be permitted until the facilities have been inspected and

approved by the Contracting Officer.

### 3.7.2 Testing of Fill Materials

Classification of fill materials shall be determined in accordance with ASTM D 2487 and the moisture-density relations of soils shall be determined in accordance with ASTM D 1557. A minimum of one soil classification and one moisture-density relation test shall be performed on each different type of material used for bedding and fill.

### 3.7.3 Field Density Tests

A minimum of one field density test per 300 cubic yards of fill shall be performed. One moisture density relationship shall be determined for every 300 cubic yards of material used. Field in-place density shall be determined in accordance with ASTM D 1556 ASTM D 2922. When ASTM D 2922 is used, the calibration curves shall be checked and adjusted using the sand cone method as described in paragraph Calibration of the ASTM publication. ASTM D 2922 results in a wet unit weight of soil and when using this method, ASTM D 3017 shall be used to determine the moisture content of the soil. The calibration curves furnished with the moisture gauges shall be checked along with density calibration checks as described in ASTM D 3017. The calibration checks of both the density and moisture gauges shall be made at the beginning of a job, on each different type of material encountered, at intervals as directed by the Contracting Officer. Copies of calibration curves, results of calibration tests, and field and laboratory density tests shall be furnished to the Contracting Officer.

-- End of Section --

## SECTION 02821

## FENCING

## PART 1 GENERAL

## 1.1 SCOPE OF WORK

The work covered by these specifications consists of furnishing all plant, labor, material, and equipment necessary to perform all operations in connection with the construction of 6,900 linear feet of a new chain link fence, one (1) trash rack gate and three (5) walk-in-gates, in accordance with the contract drawings and the requirements specified herein.

## 1.2 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 A 116	(1995) Zinc-Coated (Galvanized) Steel Woven Wire Fence Fabric
ASTM A 121	(1999) Zinc-Coated (Galvanized) Steel Barbed Wire
ASTM A 153/A 153M	(1998) Zinc-Coated (Hot Dip) on Iron and Steel Hardware
ASTM A 176	(1999) Stainless and Heat-Resisting Chromium Steel Plate, Sheet, and Strip
ASTM A 392	(1996) Zinc-Coated Steel Chain-Link Fence Fabric
ASTM A 478	(1997) Chromium-Nickel Stainless Steel Weaving and Knitting Wire
ASTM A 491	(1996) Aluminum-Coated Steel Chain-Link Fence Fabric
ASTM A 585	(1997) Aluminum-Coated Steel Barbed Wire
ASTM A 666	(1999) Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar
ASTM A 702	(1989; R 1994e1) Steel Fence Posts and Assemblies, Hot Wrought
ASTM A 780	(1993a) Repair of Damaged and Uncoated Areas of Hot-Dipped Galvanized Coatings

ASTM A 824	(1995) Metallic-Coated Steel Marcellled Tension Wire for Use With Chain Link Fence
ASTM C 94/C 94M	(2000) Ready-Mixed Concrete
ASTM D 4541	(1995e1) Pull-Off Strength of Coatings Using Portable Adhesion Testers
ASTM F 626	(1996a) Fence Fittings
ASTM F 668	(1999a) Poly(Vinyl Chloride) (PVC)-Coated Steel Chain-Link Fence Fabric
ASTM F 883	(1997) Padlocks
ASTM F 900	(1994) Industrial and Commercial Swing Gates
ASTM F 1043	(1999) Strength and Protective Coatings on Metal Industrial Chain-Link Fence Framework
ASTM F 1083	(1997) Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures
ASTM F 1664	(1995) Specification for Poly(Vinyl Chloride)(PVC)-Coated Steel Tension Wire Used with Chain-Link Fence
ASTM G 23	(1996) Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials
ASTM G 26	(1996) Operating Light-Exposure Apparatus (Xenon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials
ASTM G 53	(1996) Operating Light- and Water-Exposure Apparatus (Fluorescent UV-Condensation Type) for Exposure of Nonmetallic Materials

### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Shop Drawings; G WA

Not later than 30 days before starting installation of trash rack gate and the chain link fence, the Contractor shall submit to the Government for approval shop drawings for these items. Shop drawings will show sizes, sections, details of attachment of angles, bars and any other detail required to erect the trash rack gate and chain link fence at the locations indicated in the contract drawings.

#### SD-07 Certificates

##### Chain Link Fence

Statement, signed by an official authorized to certify on behalf of the manufacturer, attesting that the chain link fence and component materials meet the specified requirements.

##### Certificate of Compliance; G WA

The Contractor shall also submit for approval a Certificate from the manufacturer of steel pipe in which he certifies that pipe conforms to these specifications.

#### 1.4 APPROVAL OF POLYVINYL CHLORIDE-COATED FENCE MATERIALS

Polyvinyl chloride-coated fence materials shall be thoroughly inspected for cracking, peeling, and conformance with the specifications by the Contracting Officer's Representative prior to installation. Any fence materials rejected by the Contracting Officer's Representative shall be replaced by the contractor with approved materials at no additional cost to the Government.

#### 1.5 MEASUREMENT AND PAYMENT

Payment for work completed for the installed chain link fence will be paid for on a linear foot unit price basis under payment Item No. 0002 "Installation of Chain Link Fence."

### PART 2 PRODUCTS

#### 2.1 FENCE FABRIC

Fence fabric shall conform to the following:

##### 2.1.1 Chain Link Fence Fabric

Class 2b polyvinyl chloride-coated steel fabric with 0.3 ounces of zinc coating per square foot in accordance with ASTM F 668. Fabric shall be fabricated of 9 gauge wire woven in 2 inch mesh. Polyvinyl chloride coating for fabric and all other fence components shall be manufacturer's standard black in color. Fabric height shall be 8 feet. Fabric shall be twisted and barbed on the top selvage and knuckled on the bottom selvage.

#### 2.2 GATES

ASTM F 900. Gate shall be the type and swing shown. Gate frames shall conform to strength and coating requirements of ASTM F 1083 for Group IA, steel pipe, with external coating Type A, nominal pipe size (NPS) 1-1/2. Gate frames shall conform to strength and coating requirements of ASTM F 1043, for Group IC, steel pipe with external coating Type A or Type B, nominal pipe size (NPS) 1-1/2. Gate fabric shall be as specified for chain link fabric. Gate leaves more than 8 feet wide shall have either intermediate members and diagonal truss rods or shall have tubular members as necessary to provide rigid construction, free from sag or twist. Gate leaves less than 8 feet wide shall have truss rods or intermediate braces. Gate fabric shall be attached to the gate frame by method standard with the manufacturer except that welding will not be permitted. Latches, hinges, stops, keepers, rollers, and other hardware items shall be furnished as required for the operation of the gate. Latches shall be arranged for padlocking so that the padlock will be accessible from both sides of the gate. Stops shall be provided for holding the gates in the open position. Each end member of gate frames shall be extended sufficiently above the top member to carry three strands of barbed wire in horizontal alignment with barbed wire strands on the fence.

## 2.3 POSTS

### 2.3.1 Metal Posts for Chain Link Fence

ASTM F 1083, zinc-coated. Group IA, with external coating Type A steel pipe. Group IC steel pipe, zinc-coated with external coating Type A or Type B and Group II, formed steel sections, shall meet the strength and coating requirements of ASTM F 1043. Post shall be either Group IA steel pipe or Group IC, Group II, formed steel sections and shall be zinc coated (Type A) and polyvinyl chloride coating conforming to the requirements of ASTM F 1043. Sizes shall be as shown on the drawings. Line posts and terminal (corner, gate, and pull) posts selected shall be of the same designation throughout the fence. Gate post shall be for the gate type specified subject to the limitation specified in ASTM F 900.

## 2.4 BRACES AND RAILS

ASTM F 1083, zinc-coated, Group IA, steel pipe, size NPS 1-1/4. Group IC steel pipe, zinc-coated, shall meet the strength and coating requirements of ASTM F 1043. Braces and rails shall be Group IA, Group IC, steel pipe, size NPS 1-1/4 or Group II, formed steel sections, size 1-21/32 inch and shall be zinc coated (Type A) and polyvinyl chloride-coated conforming to the requirements of ASTM F 1043. Group II, formed steel sections, size 1-21/32 inch, conforming to ASTM F 1043, may be used as braces and rails if Group II line posts are furnished.

## 2.5 WIRE

### 2.5.1 Tension Wire

Tension wire shall be Type I or Type II, Class 2 coating, in accordance with ASTM A 824.

## 2.6 ACCESSORIES

ASTM F 626. Ferrous accessories shall be zinc or aluminum coated. Ferrous accessories shall also be polyvinyl chloride-coated, minimum thickness of 0.006 inch, maximum thickness of 0.015 inch. Color coating of fittings shall match the color coating of the fabric. Truss rods shall be furnished for each terminal post. Truss rods shall be provided with turnbuckles or other equivalent provisions for adjustment. Barbed wire shall be 2 strand, 12-1/2 gauge wire, zinc-coated, Class 3 in accordance with ASTM A 121 . Barbed wire shall be four-point barbed type steel wire. Barbed wire support arms shall be the single arm type and of the design required for the post furnished. Tie wire for attaching fabric to rails, braces, and posts shall be 9 gauge steel wire and match the coating of the fence fabric. Miscellaneous hardware coatings shall conform to ASTM A 153/A 153M unless modified. Threaded hardware shall be painted to match polyvinyl chloride coatings. Threaded hardware shall be painted to match polyvinyl chloride coatings.

## 2.7 CONCRETE

ASTM C 94, using 3/4 inch maximum size aggregate, and having minimum compressive strength of 3000 psi at 28 days. Grout shall consist of one part portland cement to three parts clean, well-graded sand and the minimum amount of water to produce a workable mix.

## 2.8 VINYL COATING

All fabric, gates, posts, braces, rails, barbed wire and accessories shall be covered with a black protective vinyl coating.

## PART 3 EXECUTION

### 3.1 INSTALLATION

Unless otherwise noted, the new fence shall be installed in the same location as the existing fence. The area on either side of the fence line shall be cleared a minimum distance of 3 feet of all shrubs stumps and brush, in order to aid future maintenance activities. Line posts shall be spaced equidistant at intervals not exceeding 10 feet. Terminal (corner, gate, and pull) posts shall be set at abrupt changes in vertical and horizontal alignment. Fabric shall be continuous between terminal posts; however, runs between terminal posts shall not exceed 500 feet. Any damage to galvanized surfaces, including welding, shall be repaired with paint containing zinc dust in accordance with ASTM A 780.

### 3.2 Along Dalecarlia Parkway

The portion of fence line along Dalecarlia Parkway shall be relocated to 12 inches inside the Washington Aqueduct (WA) property line. Upon issuance of the Notice to Proceed, the Government shall provide the existing fence line data to the Contractor. He will be required to perform a field survey to establish and mark the WA property line, so the new fence line can be installed in that portion.

### 3.3 EXCAVATION

The Contractor shall pull the existing fence posts concrete bases out of their post holes and re-use the existing post holes for the new fence posts. The ground surface irregularities along the fence line shall be eliminated to the extent necessary to maintain a 1 inch clearance between the bottom of the fabric and finish grade.

### 3.4 POST INSTALLATION

#### 3.4.1 Posts for Chain Link Fence

The Contractor shall ensure that the Facility is kept secure at all times. Therefore, at the end of each work day, the fence line shall be secured with temporary fencing to prevent unauthorized access. Posts shall be set plumb and in alignment. Except where solid rock is encountered, posts shall be set in concrete to the depth indicated on the drawings. Where solid rock is encountered with no overburden, posts shall be set to a minimum depth of 18 inches in rock. Where solid rock is covered with an overburden of soil or loose rock, posts shall be set to the minimum depth indicated on the drawing unless a penetration of 18 inches in solid rock is achieved before reaching the indicated depth, in which case depth of penetration shall terminate. All portions of posts set in rock shall be grouted. Portions of posts not set in rock shall be set in concrete from the rock to ground level. Posts set in concrete shall be set in holes not less than the diameter shown on the drawings. Diameters of holes in solid rock shall be at least 1 inch greater than the largest cross section of the post. Concrete and grout shall be thoroughly consolidated around each post, shall be free of voids and finished to form a dome. Concrete and grout shall be allowed to cure for 72 hours prior to attachment of any item to the posts. Group II line posts may be mechanically driven, for temporary fence construction only, if rock is not encountered. Driven posts shall be set to a minimum depth of 3 feet and shall be protected with drive caps when being set.

### 3.5 RAILS

#### 3.5.1 Top Rail

Top rail shall be supported at each post to form a continuous brace between terminal posts. Where required, sections of top rail shall be joined using sleeves or couplings that will allow expansion or contraction of the rail.

### 3.6 BRACES AND TRUSS RODS

Braces and truss rods shall be installed as indicated and in conformance with the standard practice for the fence furnished. Horizontal (compression) braces and diagonal truss (tension) rods shall be installed on fences over 6 feet in height. Braces and truss rods shall extend from terminal posts to line posts. Diagonal braces shall form an angle of approximately 40 to 50 degrees with the horizontal.

### 3.7 TENSION WIRES

Tension wires shall be installed along the bottom of the fence line and

attached to the terminal posts of each stretch of the fence. Bottom tension wire shall be installed within the bottom 6 inches of the installed fabric. Tension wire shall be pulled taut and shall be free of sag.

### 3.8 CHAIN LINK FABRIC

Chain link fabric shall be installed on the side of the post indicated. Fabric shall be attached to terminal posts with stretcher bars and tension bands. Bands shall be spaced at approximately 15 inch intervals. The fabric shall be installed and pulled taut to provide a smooth and uniform appearance free from sag, without permanently distorting the fabric diamond or reducing the fabric height. Fabric shall be fastened to line posts at approximately 15 inch intervals and fastened to all rails and tension wires at approximately 12 inch intervals. Fabric shall be cut by untwisting and removing pickets. Splicing shall be accomplished by weaving a single picket into the ends of the rolls to be joined. The bottom of the installed fabric shall be 1 plus or minus 1/2 inch above the ground.

### 3.9 BARBED WIRE SUPPORTING ARMS AND BARBED WIRE

#### 3.9.1 General Requirements

Barbed wire supporting arms and barbed wire shall be installed as indicated and as recommended by the manufacturer. Supporting arms shall be anchored to the posts in a manner to prevent easy removal with hand tools. Barbed wire shall be pulled taut and attached to the arms with clips or other means that will prevent easy removal.

### 3.10 GATE INSTALLATION

Gates shall be installed at the locations shown. Hinged gates shall be mounted to swing as indicated. Latches, stops, and keepers shall be installed as required. Padlocks shall be attached to gates or gate posts with chains. Hinge pins, and hardware shall be welded or otherwise secured to prevent removal.

### 3.11 FENCE AROUND PRIVATE PROPERTIES

There is a section of approximately 600+ feet in which the fence is either very close to private homes' fences or it is the only fence there. The Contractor shall exercise extreme caution when working around these properties. He shall make sure that he will not damage private fence, plants, trees or anything within those properties. If for any reason the Contractor's personnel incurred in any damage to these properties, it shall be the sole responsibility of the Contractor to restore the damaged items or to pay for such damages to the satisfaction of the owner(s). No clearing shall be done at these places on the private property side of the fence.

### 3.12 TRASH RACK GATE

The trash rack gate shall be built according to established drawings. All pipe for this gate shall conform to ASTM F 1083. Aluminum bars and angles shall conform to Federal specifications QQ-A-270 and ASTM B 221 and ASTM B

308. All fastening items like bolts, tie bars, plates and hangers shall be made of structural steel, Fy of 36 ksi. All these items shall be prepared and painted black with two coats of epoxy enamel paint to match the vinyl coating of the new fence.

### 3.13 REMOVAL OF EXISTING FLAP GATE, WALK-IN GATE AND CHAIN LINK FENCE

All existing 6,900 LF of fence, five (5) walk-in gates and flap gate shall be removed by the Contractor. The existing fence line is littered with discarded and abandoned fencing material. Therefore, the Contractor shall remove these dispersed and scattered pieces of abandoned 8' chain link fence material both inside and outside of existing fence line that total approximately 1,000 linear feet, as well as about 600 linear feet of fencing posts. All these items shall become the property of the Contractor and be disposed of at the Contractor's own disposal site.

-- End of Section --