



IFB No. DACW09-02-B-0003

U.S. ARMY CORPS
OF ENGINEERS
LOS ANGELES DISTRICT

LOWER SANTA ANA RIVER CHANNEL, PHASE 4, TALBERT AVENUE TO RIVERVIEW GOLF COURSE

ORANGE COUNTY, CA

Construction Solicitation and Specifications

8(a) Competitive

JUNE 2002

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SOLICITATION, OFFER, AND AWARD <i>(Construction, Alteration, or Repair)</i>		1. SOLICITATION NO. DACW09-02-B-0003	2. TYPE OF SOLICITATION <input checked="" type="checkbox"/> SEALED BID (IFB) <input type="checkbox"/> NEGOTIATED (RFP)	3. DATE ISSUED 20 June 2002	PAGE OF PAGES
IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.					
4. CONTRACT NO.		5. REQUISITION/PURCHASE REQUEST NO.		6. PROJECT NO. Lower Santa Ana River Channel	
7. ISSUED BY Los Angeles District, COE CESPL-CT-West Region Branch P. O. Box 532711 Los Angeles, CA 90053-2325		CODE	8. ADDRESS OFFER TO Los Angeles District, COE CESPL-CT-West Region Branch P. O. Box 532711 Los Angeles, CA 90053-2325		
9. FOR INFORMATION CALL A. NAME Cindy Myrtetus		B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS) 213.452.3247			

SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (Title, identifying no., date):
LOWER SANTA ANA RIVER CHANNEL ESTHETIC TREATMENT AND EROSION CONTROL, TALBERT AVENUE TO RIVERVIEW GOLF COURSE, PHASE 4, ORANGE COUNTY, CA.

This project will consist of landscaping, hydroseeding and an irrigation system. A one-year plant establishment period is required for the project. The estimated cost range of the project is \$5,000,000.00 - \$10,000,000.00.

The Small Business Administration has determined that for this procurement competition will be restricted to 8(a) firms certified for participation in the 8(a) program with headquarters or approved satellite offices in Region 9 and which have the North American Industry Classification System (NAICS) code 234 among their approved NAICS Codes.

PLEASE NOTE: BIDDERS ARE ADVISED TO FOLLOW THE SPECIAL INSTRUCTIONS PERTAINING TO HAND CARRIED BIDS. THE INSTRUCTIONS ARE FOUND IN SECTION 00100 OF THE SOLICITATION.

11. The Contractor shall begin performance within * _____ calendar days and complete it within * _____ calendar days after receiving
 award, notice to proceed. This performance period is mandatory, negotiable. (See * Sec 00800)

12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS?
(If "YES," indicate within how many calendar days after award in Item 12B.)
 YES NO

12B. CALENDAR DAYS
10

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and 0 copies to perform the work required are due at the place specified in Item 8 by 1300 (hour) local time 25 July 2002 (date). If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

B. An offer guarantee is, is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

D. Offers providing less than 60 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

BIDDING SCHEDULE

ITEM #	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	ESTIMATED AMOUNT
0001	Clearing & Grubbing	3.0	AC	_____ . ____	_____ . ____
0002	Finished Grading	3.0	AC	_____ . ____	_____ . ____
0003	Reach 8 Clearing & Grubbing	0.5	AC	_____ . ____	_____ . ____
0004	Reach 8 Finished Grading	0.5	AC	_____ . ____	_____ . ____
0005	Landscape Stone	1	LS	***	_____ . ____
0006	Ornamental Stone Features	1	LS	***	_____ . ____
0007	Irrigation System	1	LS	***	_____ . ____
0008	Electrical	1	LS	***	_____ . ____
0009	Reclaimed Water Connection	1	LS	***	_____ . ____
0010	Planting-Hydroseed Mix "A"	1	LS	***	_____ . ____
0011	Planting-Hydroseed Mix "B"	1	LS	***	_____ . ____
0012	Landscaping	1	LS	***	_____ . ____
0013	Landscaping Stone Removals	1	LS	***	_____ . ____
0014	Landscaping Plant Removals	1	LS	***	_____ . ____
0015	As-Built Drawings	1	LS	***	_____ . ____
0016	Decomposed Granite	1,900	C.Y.	_____ . ____	_____ . ____
0017	Exterior Signage Type "A"	18	EA	_____ . ____	_____ . ____
0018	Exterior Signage Type "B"	34	EA	_____ . ____	_____ . ____
0019	Reach 8 Irrigation	1	LS	***	_____ . ____
TOTAL ESTIMATED AMOUNT:					_____ . ____

1. All extensions of the unit prices shown will be subject to verification by the Government. In case of variation between the unit price and the extension, the unit price will be considered to be the bid.
2. If a modification to a bid based on unit prices is submitted which provides for a lump sum adjustment to the total estimated amount, the application of the lump sum adjustment to each unit price in the Price Schedule must be stated. If it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the Price Schedule.
3. For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the Price Schedule as submitted by the bidder:
 - a. Obviously misplaced decimal points will be corrected;
 - b. In case of discrepancy between the unit price and the extended price, the unit price will govern;
 - c. Apparent errors in extensions of unit prices will be corrected;
 - d. Apparent errors in addition of lump sum and extended prices will be corrected.
4. For the purpose of bid evaluation, the Government will proceed on the assumption that the bidder intends the bid to be evaluated on the basis of unit prices the totals arrived at by the resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.
5. The lump sum "LS" line items in the Price Schedule are not "Estimated Quantity" line items and are not subject to the "Variation in Estimated Quantity" contract clause.
6. The Contract Clause 52.232-27, "Prompt Payment for Construction Contracts" requires that the name and address of the contractor official, to whom payment is to be sent, be the same as that in the contract or in a proper Notice of Assignment.
7. Principal Contracting Officer. The Contracting Officer who signs this contract will be the Principal Contracting Officer for this contract. However, any Contracting Officer assigned to the Los Angeles District, contracting within his authority, may take formal action on this contract when the Principal Contracting Officer is unavailable and the action needs to be taken.
8. Amounts and prices shall be indicated in either words or figures, NOT BOTH.
9. Payment of Electronic Funds Transfer (EFT) is the mandatory method of payment. The Contractor's attention is directed to Contract Clause NO. 52.232-33 "Mandatory Information for Electronic Funds Transfer" located in Section 00800.
10. The bidder shall distribute his indirect costs (overhead, profit, bond, etc.) over all items in the Price Schedule. The Government will review all submitted Price Schedules for any unbalancing of the items. Any submitted Price Schedule determined to be unbalanced may be considered non-responsive and cause the bidder to be ineligible for contract award.
11. The bidder shall furnish all plant, labor, material, equipment, etc., necessary to perform all work in strict accordance with the terms and conditions set forth in the contract in include all attachments thereto.
12. Some quantities are ESTIMATED, the bidders prices MUST BE FIRM.
13. Bidder is cautioned to check his Price Schedule carefully prior to submission. If the Price Schedule contains unit prices, they should be round off to the second decimal point only NOT EXTENDED FURTHER.
14. Contractor is required to fill in Cage code (Reference Section 00600, entitled "Required Central Contractor Registration" Mar 1998) and DUNS Number (Reference Section 00600, entitled, "Data Universal Numbering System (DUNS) Number" Jun1999) in Block No. 15 on Standard Form 1442, Name and Address Block (Cage Code under Code and DUNS No. under Facility Code respectively).

CERTIFICATE OF CORPORATE PRINCIPAL

1) IF THE OFFEROR IS A JOINT VENTURE, COMPLETE THE FOLLOWING:

(Company Name) (Signature) (Title)

(Company Name) (Signature) (Title)

(Company Name) (Signature) (Title)

2) IF THE OFFEROR IS PARTNERSHIP, LIST FULL NAME OF ALL PARTNERS:

(Company Name) (Signature) (Title)

(Company Name) (Signature) (Title)

(Company Name) (Signature) (Title)

3) IF THE OFFEROR IS A CORPORATION, THE FOLLOWING CERTIFICATION SHOULD BE COMPLETED:

CERTIFICATION AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the corporation named as principal in the within contract; that _____, who signed the said contract on behalf of the principal, was the _____ of the corporation; that I know his signature and that his signature is genuine; and that said contract was duly signed, sealed and attested for in behalf of said corporation by authority of its governing body.

CORPORATE PRINCIPAL

CORPORATE SEAL

SECRETARY

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SECTION 00100

52.0000-4010 INQUIRIES

Perspective bidders/offerors should submit inquiries related to this solicitation by writing or calling the following (collect calls will not be accepted):

(1) For inquiries of a contractual nature (solicitation requirements, interpretation of contractual language) call:

Cindy Myrtetus

(213) 452-3247

For bid results only, call (213) 452-3235.

(2) All technical questions on the specification or drawings will be submitted in writing to:

Address:

U.S. Army Corps of Engineers, Los Angeles District

Attn: CE-SPLCT-W, Cindy Myrtetus

P.O. Box 532711, Los Angeles, CA 90053-2325.

(3) Please include the solicitation number, project title and location of project with your questions. Written inquiries must be received by this office not later than 14 calendar days prior to bid opening date/date set for receipt of offers.

(4) Oral explanations or instructions are not binding. Any information given to a bidder/offeror which impacts the bid/offer will be given in the form of a written amendment to the solicitation.

52.0000-4023 SAFETY REQUIREMENTS

The bidder's attention is directed to the latest version of U.S. Army Corps of Engineers Safety and Health Manual, EM 385-1-1, which will be strictly enforced. This publication may be obtained from the US Army Engineer District, Los Angeles, ATTN: Safety Office, P.O. Box 532711, Los Angeles, California 90053-2325.

52.0001-4004 BID RESULTS

The telephone number for bid results after the opening is Area Code (213) 452-3235.

52.211-2 AVAILABILITY OF SPECIFICATIONS LISTED IN THE DOD INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) AND DESCRIPTIONS LISTED IN THE ACQUISITION MANAGEMENT SYSTEMS AND DATA REQUIREMENTS CONTROL LIST, DOD 5010.12-L (DEC 1999)

Copies of specifications, standards, and data item descriptions cited in this solicitation may be obtained--

(a) From the ASSIST database via the Internet at <http://assist.daps.mil>; or

(b) By submitting a request to the--Department of Defense Single Stock Point (DoDSSP), Building 4, Section D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Telephone (215) 697-2667/2179, Facsimile (215) 697-1462.

(End of provision)

52.214-1 SOLICITATION DEFINITIONS--SEALED BIDDING (JUL 1987)

"Government" means United States Government.

"Offer" means "bid" in sealed bidding.

"Solicitation" means an invitation for bids in sealed bidding.

(End of provision)

52.214-3 AMENDMENTS TO INVITATIONS FOR BIDS (DEC 1989)

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

(b) Bidders shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date in the space provided for this purpose on the form for submitting a bid, (3) by letter or telegram, or (4) by facsimile, if facsimile bids are authorized in the solicitation. The Government must receive the acknowledgment by the time and at the place specified for receipt of bids.

(End of provision)

52.214-4 FALSE STATEMENTS IN BIDS (APR 1984)

Bidders must provide full, accurate, and complete information as required by this solicitation and its attachments. The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

(End of provision)

52.214-5 SUBMISSION OF BIDS (MAR 1997)

(a) Bids and bid modifications shall be submitted in sealed envelopes or packages (unless submitted by electronic means) (1) addressed to the office specified in the solicitation, and (2) showing the time and date specified for receipt, the solicitation number, and the name and address of the bidder.

(b) Bidders using commercial carrier services shall ensure that the bid is addressed and marked on the outermost envelope or wrapper as prescribed in subparagraphs (a)(1) and (2) of this provision when delivered to the office specified in the solicitation.

(c) Telegraphic bids will not be considered unless authorized by the solicitation; however, bids may be modified or withdrawn by written or telegraphic notice.

(d) Facsimile bids, modifications, or withdrawals, will not be considered unless authorized by the solicitation.

(e) Bids submitted by electronic commerce shall be considered only if the electronic commerce method was specifically stipulated or permitted by the solicitation.

52.214-6 EXPLANATION TO PROSPECTIVE BIDDERS (APR 1984)

Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing soon enough to allow a reply to reach all prospective bidders before the submission of their bids. Oral explanations or instructions given before the award of a contract will not be binding. Any information given a prospective bidder concerning a solicitation will be furnished promptly to all other prospective bidders as an amendment to the solicitation, if that information is necessary in submitting bids or if the lack of it would be prejudicial to other prospective bidders.

(End of provision)

52.214-7 LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF BIDS (NOV 1999)

(a) Bidders are responsible for submitting bids, and any modifications or withdrawals, so as to reach the Government office designated in the invitation for bids (IFB) by the time specified in the IFB. If no time is specified in the IFB, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that bids are due.

(b)(1) Any bid, modification, or withdrawal received at the Government office designated in the IFB after the exact time specified for receipt of bids is "late" and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late bid would not unduly delay the acquisition; and--

(i) If it was transmitted through an electronic commerce method authorized by the IFB, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of bids; or

(ii) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of bids and was under the Government's control prior to the time set for receipt of bids.

(2) However, a late modification of an otherwise successful bid that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(c) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the bid wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(d) If an emergency or unanticipated event interrupts normal Government processes so that bids cannot be received at the Government office designated for receipt of bids by the exact time specified in the IFB and urgent Government requirements preclude amendment of the IFB, the time specified for receipt of bids will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(e) Bids may be withdrawn by written notice received at any time before the exact time set for receipt of bids. If the IFB authorizes facsimile bids, bids may be withdrawn via facsimile received at any time before the exact time set for receipt of bids, subject to the conditions specified in the provision at 52.214-31, Facsimile Bids. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for receipt of bids, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid.

(End of provision)

52.214-18 PREPARATION OF BIDS--CONSTRUCTION (APR 1984)

(a) Bids must be (1) submitted on the forms furnished by the Government or on copies of those forms, and (2) manually signed. The person signing a bid must initial each erasure or change appearing on any bid form.

(b) The bid form may require bidders to submit bid prices for one or more items on various bases, including--

(1) Lump sum bidding;

(2) Alternate prices;

(3) Units of construction; or

(4) Any combination of subparagraphs (1) through (3) above.

(c) If the solicitation requires bidding on all items, failure to do so will disqualify the bid. If bidding on all items is not required, bidders should insert the words "no bid" in the space provided for any item on which no price is submitted.

(d) Alternate bids will not be considered unless this solicitation authorizes their submission.

52.214-19 CONTRACT AWARD--SEALED BIDDING--CONSTRUCTION (AUG 1996)

(a) The Government will evaluate bids in response to this solicitation without discussions and will award a contract to the responsible bidder whose bid, conforming to the solicitation, will be most advantageous to the Government, considering only price and the price-related factors specified elsewhere in the solicitation.

(b) The Government may reject any or all bids, and waive informalities or minor irregularities in bids received.

(c) The Government may accept any item or combination of items, unless doing so is precluded by a restrictive limitation in the solicitation or the bid.

(d) The Government may reject a bid as nonresponsive if the prices bid are materially unbalanced between line items or subline items. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the Government even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

52.214-34 SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE (APR 1991)

Offers submitted in response to this solicitation shall be in the English language. Offers received in other than English shall be rejected.

(End of provision)

52.214-35 SUBMISSION OF OFFERS IN U.S. CURRENCY (APR 1991)

Offers submitted in response to this solicitation shall be in terms of U.S. dollars. Offers received in other than U.S. dollars shall be rejected.

(End of provision)

52.0214-4001 DIRECTIONS FOR SUBMITTING BIDS (MAR 2002)

Envelopes containing bids must be sealed, marked and addressed as follows:

MARK ENVELOPES:

Bid under IFB No. **DACW09-02-B-0003**
Bid Opening Date: **25 JULY 2002 AT 1:00 PM**

ADDRESS ENVELOPES TO:

Department of the Army
U. S. Army Engineer District, Los Angeles
ATTN: Contracting Division
C/O: **Cindy Myrtetus**
P. O. Box 532711
Los Angeles, CA 90053-2325

SPECIAL INSTRUCTIONS PERTAINING TO HAND-CARRIED BIDS:

Due to security precautions, all Corps of Engineers visitors/couriers are now required to check in at the Public Affairs Office (PAO), Suite 980, Wilshire Blvd, Los Angeles, CA. Bidders are no longer permitted to hand-carry their bids directly to Contracting Division without an authorized escort. **Bids may NOT be left unattended at the Public Affairs Office (PAO), Suite 980.**

Bidders who desire to hand-deliver their bids prior to the scheduled bid opening time/date must notify the Contracting Division to arrange for receipt of their bid by Contracting Division personnel. Normally the contact will be the Contract Specialist designated above. In the event the Contract Specialist cannot be reached, please call the main Contracting Division telephone number, 213-452-3231 or the following alternative telephone numbers -3233, -3245, -3234, or -3235, in order to request assistance.

30 minutes prior to the scheduled bid opening time/date, the Bid Opening Officer will be in the Public Affairs Office (PAO) Suite 980, to accept bids. After visitor in-processing, all bidders will subsequently be escorted to Bid Opening Room, where the bids will be publicly opened and read.

In order to expedite visitor processing, bidders are encouraged to complete the information requested on the Notice of Visitor(s) Form (attached). The completed form can be faxed to the Contract Specialist at (213)452-4184 or 4187, prior to the date for receipt of bids. In addition, no more than 2 visitors per firm will be permitted within the building. No exceptions will be made. The offeror is responsible for compliance with the security requirements and shall ensure that any company representative, courier or delivery personnel are aware of these special procedures pertaining to hand carried bids.

NOTICE OF VISITOR(S)

1. Date(s) of Visit (<i>Inclusive</i>)	2. Arrival Time	
3. Name of Visitor(s) (<i>Last, First</i>)	4. Agency/Company of Visitor	
5. Name of Person Being Visited (<i>Include Div, Br, Sec</i>)	6. Suite Number	7. Telephone Number
8. Contact Person (<i>if other than Person Being Visited</i>)		9. Telephone Number
10. Other Comments or Instructions		
<ul style="list-style-type: none"> - All visitors must report to the Public Affairs Office, Suite 980 - Visitors must use the Visitor Tag provided. - Visitors must be escorted to Corps of Engineers floors - Parking validation is only available for Engineering Division, Construction-Operations, and Information Management field personnel. - Delivery personnel will be validated for 30 minutes only. 		

Telegraphic Modifications to Bids should be addressed to:

US Army Engineer District, Los Angeles
Contracting Division, Suite 1040
911 Wilshire Blvd
Los Angeles, California 90017

52.214-4500 ARITHMETIC DISCREPANCIES EFARS 52.214-5000

(a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face

of the bidding schedule as submitted by bidders:

- (1) Obviously misplaced decimal points will be corrected;
- (2) Discrepancy between unit price and extended price, the unit price will govern;
- (3) Apparent errors in extension of unit prices will be corrected;
- (4) Apparent errors in addition of lump sum and extended prices will be corrected.

(b) For the purpose of bid evaluation, the Government will proceed on the assumption that the bidder intends his bid to be evaluated on the basis of the unit prices, the totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.

(c) These correction procedures shall not be used to resolve any ambiguity concerning which bid is low.

52.0214-4583 TELEGRAPHIC BIDS/OFFERS ARE NOT ACCEPTABLE

Any telegram to modify or withdraw a bid/offer sent to this office must be physically delivered to the office designated for receipt of bid/offer by the date and time set for bid opening/receipt of proposals. No one from this office will be dispatched to the local telegraph office to pick up any telegram for any reason.

52.0214-4584 FACSIMILE BIDS/OFFERS

Facsimile bids/offers, modifications thereto, or cancellations of bids/offers will not be accepted.

52.214-4599 EVALUATION FOR AWARD

The Government contemplates award of one contract to the responsive, responsible bidder who submits the low bid for total estimated amount of all the line items.

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a Firm-Fixed Price contract resulting from this solicitation.

(End of clause)

52.219-18 NOTIFICATION OF COMPETITION LIMITED TO ELIGIBLE 8(A) CONCERNS (NOV 1999)

(a) Offers are solicited only from small business concerns expressly certified by the Small Business Administration (SBA) for participation in the SBA's 8(a) Program and which meet the following criteria at the time of submission of offer—**The SBA has determined that for this procurement competition will be restricted to 8(a) firms certified for participation in the 8(a) program with headquarters or approved satellite offices in Region 9 and which have the NAICS Code 234 among their approved NAICS Codes.**

(1) The Offeror is in conformance with the 8(a) support limitation set forth in its approved business plan; and

(2) The Offeror is in conformance with the Business Activity Targets set forth in its approved business plan or any remedial action directed by the SBA.

(b) By submission of its offer, the Offeror represents that it meets all of the criteria set forth in paragraph (a) of this clause.

(c) Any award resulting from this solicitation will be made to the Small Business Administration, which will subcontract performance to the successful 8(a) offeror selected through the evaluation criteria set forth in this solicitation.

(d)(1) Agreement. A small business concern submitting an offer in its own name agrees to furnish, in performing the contract, only end items manufactured or produced by small business concerns in the United States. The term "United States" includes its territories and possessions, the Commonwealth of Puerto Rico, the Trust Territory of the Pacific Islands, and the District of Columbia. If this procurement is processed under simplified acquisition procedures and the total amount of this contract does not exceed \$25,000, a small business concern may furnish the product of any domestic firm. This subparagraph does not apply in connection with construction or service contracts.

(2) The **TBD** will notify the **USACE, Los Angeles District** Contracting Officer in writing immediately upon entering an agreement (either oral or written) to transfer all or part of its stock or other ownership interest to any other party.

(End of clause)

52.225-12 NOTICE OF BUY AMERICAN ACT REQUIREMENT-- CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (FEB 2000)

(a) Definitions. Construction material, designated country construction material, domestic construction material, foreign construction material, and NAFTA country construction material, as used in this provision, are defined in the clause of this solicitation entitled "Buy American Act--Balance of Payments Program--Construction Materials under Trade Agreements" (Federal Acquisition Regulation (FAR) clause 52.225-11).

(b) Requests for determination of inapplicability. An offeror requesting a determination regarding the inapplicability of the Buy American Act or Balance of Payments Program should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of FAR clause 52.225-11 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act or Balance of Payments Program before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) Evaluation of offers. (1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act or Balance of Payments Program, based on claimed unreasonable cost of domestic construction materials, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(4)(i) of FAR clause 52.225-11.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers. (1) When an offer includes foreign construction material, other than designated country or NAFTA country construction material, that is not listed by the Government in this solicitation in paragraph (b)(3) of FAR clause 52.225-11, the offeror also may submit an alternate offer based on use of equivalent domestic, designated country, or NAFTA country construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of FAR clause 52.225-11 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of FAR clause 52.225-11 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic, designated country, or NAFTA country construction material, and the offeror shall be required to furnish such domestic, designated country, or NAFTA country construction material. An offer based on use of the foreign construction material for which an exception was requested--

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of provision)

52.228-1 BID GUARANTEE (SEP 1996)

(a) Failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

(b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, irrevocable letter of credit, or, under Treasury Department regulations, certain bonds or notes of the United States. The Contracting Officer will return bid guarantees, other than bid bonds, (1) to unsuccessful bidders as soon as practicable after the opening of bids, and (2) to the successful bidder upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.

(c) The amount of the bid guarantee shall be 20 percent of the bid price or \$3,000,000.00, whichever is less.

(d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.

(e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

52.228-4506 INDIVIDUAL SURETIES IN SUPPORT OF BID BONDS

Bidder/offerors utilizing individual sureties in support of a bid bond shall include a Standard Form (SF) 28 (Affidavit of Individual Surety), accompanied by a pledge of acceptable assets from each person acting as an individual surety, and include these with the SF 24 (Bid Bond), and the bid itself (see clause titled "Pledges of Assets," FAR 52.228-11).

Pledges of acceptable assets shall be in the form of (1) evidence of an escrow account and/or (2) a recorded lien on real estate. If this is an RFP, failure to provide required documentation described herein may cause the offeror to be deemed "unacceptable".

52.228-4507 BID GUARANTEE FORM AND AMOUNT

When bids/proposals exceed \$100,000, the offeror shall furnish a separated bid guarantee in accordance with the solicitation provision titled "Bid Guarantee", FAR 52.228-1. In accordance with FAR 28.101-2 the bid guarantee amount shall be a least 20 percent of the "bid price" but shall not exceed \$3 million. When the penal sum is expressed as a percentage, a maximum dollar limitation may be stated. If there are option line items on the Pricing Schedule (Schedule B), the term "bid price" is hereby defined as the total bid not to include any amount for line items designated as "options". In bids/proposals that contain "additives", the "bid price" is defined as the total of all bid items including additive line items. FAR 28.106-1 states that a Standard Form (SF) 24 shall be used for the bid bond. In accordance with FAR 28.202(a)(1), corporate sureties utilized must appear on the list contained in the Department of Treasury Circular 570 titled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and Acceptable Reinsuring Companies."

52.232-38 SUBMISSION OF ELECTRONIC FUNDS TRANSFER INFORMATION WITH OFFER (MAY 1999)

The offeror shall provide, with its offer, the following information that is required to make payment by electronic funds transfer (EFT) under any contract that results from this solicitation. This submission satisfies the requirement to provide EFT information under paragraphs (b)(1) and (j) of the clause at 52.232-34, Payment by Electronic Funds Transfer--Other than Central Contractor Registration.

- (1) The solicitation number (or other procurement identification number).
- (2) The offeror's name and remittance address, as stated in the offer.
- (3) The signature (manual or electronic, as appropriate), title, and telephone number of the offeror's official authorized to provide this information.
- (4) The name, address, and 9-digit Routing Transit Number of the offeror's financial agent.
- (5) The offeror's account number and the type of account (checking, savings, or lockbox).
- (6) If applicable, the Fedwire Transfer System telegraphic abbreviation of the offeror's financial agent.
- (7) If applicable, the offeror shall also provide the name, address, telegraphic abbreviation, and 9-digit Routing Transit Number of the correspondent financial institution receiving the wire transfer payment if the offeror's financial agent is not directly on-line to the Fedwire and, therefore, not the receiver of the wire transfer payment.

(End of provision)

52.233-2 SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from Mrs. Patricia Brown Trainer, C/O Ms. Cindy Myrtetus, USACE, ATTN: CESPLCT-W, Post Office Box 532711, Los Angeles, CA 9i0053-2325

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995)

(a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors or quoters are urged and expected to inspect the site where the work will be performed.

(b) Site visits may be arranged during normal duty hours by contacting:

Name: Ms. Julie Martinez

Telephone: 562.861.1094

A site visit will be conducted on July 18, 2002 at 9:30 AM. The meeting place will be on the north east corner at the intersection of Talbert Avenue and the Santa Ana River Channel.

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SECTION 00600

52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that --

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to (i) those prices, (ii) the intention to submit an offer, or (iii) the methods of factors used to calculate the prices offered:

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory --

(1) Is the person in the offeror's organization responsible for determining the prices offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contradictory to subparagraphs (a)(1) through (a)(3) above; or

(2) (i) Has been authorized, in writing, to act as an agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above _____ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the offeror deletes or modifies subparagraph (a)(2) above, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of clause)

52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this Certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989,--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress on his or her behalf in connection with the

awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(End of provision)

52.204-3 TAXPAYER IDENTIFICATION (OCT 1998)

(a) Definitions.

Common parent, as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

Taxpayer Identification Number (TIN), as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal Acquisition Regulation (FAR) 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(d) Taxpayer Identification Number (TIN).

___ TIN:-----

___ TIN has been applied for.

___ TIN is not required because:

___ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

- Offeror is an agency or instrumentality of a foreign government;
- Offeror is an agency or instrumentality of the Federal Government.

(e) Type of organization.

- Sole proprietorship;
- Partnership;
- Corporate entity (not tax-exempt);
- Corporate entity (tax-exempt);
- Government entity (Federal, State, or local);
- Foreign government;
- International organization per 26 CFR 1.6049-4;
- Other-----

(f) Common parent.

- Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.
- Name and TIN of common parent:

Name-----

TIN-----

(End of provision)

52.204-6 DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (JUN 99)

(a) Contractor identification is essential for complying with statutory contract reporting requirements. Therefore, the offeror is requested to enter, in the block with its name and address on the Standard Form 33 or similar document, the annotation "DUNS" followed by the DUNS number which identifies the offeror's name and address exactly as stated in the offer.

(b) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one. A DUNS number will be provided immediately by telephone at no charge to the offeror. For information on obtaining a DUNS number, the offeror, if located within the United States, should call Dun and Bradstreet at 1-800-333-0505. The offeror should be prepared to provide the following information:

- (1) Company name.
- (2) Company address.
- (3) Company telephone number.
- (4) Line of business.
- (5) Chief executive officer/key manager.

(6) Date the company was started.

(7) Number of people employed by the company.

(8) Company affiliation.

(c) Offerors located outside the United States may obtain the location and phone number of the local Dun and Bradstreet Information Services office from the Internet Home Page at <http://www.customerservice@dnb.com/>. If an offeror is unable to locate a local service center, it may send an e-mail to Dun and Bradstreet at globalinfo@dnb.com.

(End of provision)

52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (JAN 2001)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that--

(i) The Offeror and/or any of its Principals--

(A) Are are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have have not , within the three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property;

(C) Are are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision (a)(1)(i)(B) of this provision; and

(ii)(A) The offeror, aside from the offenses enumerated in paragraphs (a)(1)(i)(A), (B), and (C) of this provision, has has not within the past three years, relative to tax, labor and employment, environmental, antitrust, or consumer protection laws--

(1) Been convicted of a Federal or state felony (or has any Federal or state felony indictments currently pending against them); or

(2) Had a Federal court judgment in a civil case brought by the United States rendered against them; or

(3) Had an adverse decision by a Federal administrative law judge, board, or commission indicating a willful violation of law.

(B) If the offeror has responded affirmatively, the offeror shall provide additional information if requested by the Contracting Officer; and

(iii) The Offeror has has not , within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKER SUBJECT TO PROSECUTION UNDER SECTION 1001, TITLE 18, UNITED STATES CODE.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (MAY 2001) ALTERNATE I (OCT 2000) & ALTERNATE II (OCT 2000)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is **23499** (insert NAICS code).

(2) The small business size standard is **\$27.5 million** (insert size standard).

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it () is, () is not a small business concern.

(2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it () is, () is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it () is, () is not a women-owned small business concern.

(4) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it () is, () is not a veteran-owned small business concern.

(5) (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.) The offeror represents as part of its offer that it () is, () is not a service-disabled veteran-owned small business concern.

(6) (Complete only if offeror represented itself as small business concern in paragraph (b)(1) of this provision). The offeror represents, as part of its offer, that--

(i) It () is, () is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR Part 126; and

(ii) It () is, () is not a joint venture that complies with the requirements of 13 CFR Part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. (The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture: _____.) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(7) (Complete if offeror represented itself as disadvantaged in paragraph (b)(2) of this provision.) The offeror shall check the category in which its ownership falls:

() Black American.

() Hispanic American.

() Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).

() Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

() Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

(c) Definitions. As used in this provision--

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

Veteran-owned small business concern means a small business concern--

- (1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and
- (2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern --

- (1) That is at least 51 percent owned by one or more women; in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and
- (2) Whose management and daily business operations are controlled by one or more women.

(d) Notice.

(1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

- (i) Be punished by imposition of fine, imprisonment, or both;
- (ii) Be subject to administrative remedies, including suspension and debarment; and
- (iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

52.219-2 EQUAL LOW BIDS. (OCT 1995)

(a) This provision applies to small business concerns only.

(b) The bidder's status as a labor surplus area (LSA) concern may affect entitlement to award in case of tie bids. If the bidder wishes to be considered for this priority, the bidder must identify, in the following space, the LSA in which the costs to be incurred on account of manufacturing or production (by the bidder or the first-tier subcontractors) amount to more than 50 percent of the contract price.

(c) Failure to identify the labor surplus area as specified in paragraph (b) of this provision will preclude the bidder from receiving priority consideration. If the bidder is awarded a contract as a result of receiving priority consideration under this provision and would not have otherwise received award, the bidder shall

perform the contract or cause the contract to be performed in accordance with the obligations of an LSA concern.

52.219-19 SMALL BUSINESS CONCERN REPRESENTATION FOR THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM (OCT 2000)

(a) Definition.

"Emerging small business" as used in this solicitation, means a small business concern whose size is no greater than 50 percent of the numerical size standard applicable to the North American Industry Classification System (NAICS) code assigned to a contracting opportunity.

(b) [Complete only if the Offeror has represented itself under the provision at 52.219-1 as a small business concern under the size standards of this solicitation.] The Offeror [] is, [] is not an emerging small business.

(c) (Complete only if the Offeror is a small business or an emerging small business, indicating its size range.)

Offeror's number of employees for the past 12 months (check this column if size standard stated in solicitation is expressed in terms of number of employees) or Offeror's average annual gross revenue for the last 3 fiscal years (check this column if size standard stated in solicitation is expressed in terms of annual receipts). (Check one of the following.)

No. of Employees Avg. Annual Gross Revenues

___ 50 or fewer ___ \$1 million or less

___ 51 - 100 ___ \$1,000,001 - \$2 million

___ 101 - 250 ___ \$2,000,001 - \$3.5 million

___ 251 - 500 ___ \$3,500,001 - \$5 million

___ 501 - 750 ___ \$5,000,001 - \$10 million

___ 751 - 1,000 ___ \$10,000,001 - \$17 million

___ Over 1,000 ___ Over \$17 million

(End of provision)

52.219-22 SMALL DISADVANTAGED BUSINESS STATUS (OCT 1999) ALTERNATE I (OCT 1998)

(a) General. This provision is used to assess an offeror's small disadvantaged business status for the purpose of obtaining a benefit on this solicitation. Status as a small business and status as a small disadvantaged business for general statistical purposes is covered by the provision at FAR 52.219-1, Small Business Program Representation.

(b) Representations.

(1) General. The offeror represents, as part of its offer, that it is a small business under the size standard applicable to this acquisition; and either--

___ (i) It has received certification by the Small Business Administration as a small disadvantaged business concern consistent with 13 CFR 124, Subpart B; and

(A) No material change in disadvantaged ownership and control has occurred since its certification;

(B) Where the concern is owned by one or more disadvantaged individuals, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(C) It is identified , on the date of this representation, as a certifies small disadvantaged business concern in the database maintained by the Small Business Administration (PRO-Net); or

___ (ii) It has submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted.

(2)___ For Joint Ventures. The offeror represents, as part of its offer, that it is a joint venture that complies with the requirements at 13 CFR 124.1002(f) and that the representation in paragraph (b)(1) of this provision is accurate for the small disadvantaged business concern that is participating in the joint venture. [The offeror shall enter the name of the small disadvantaged business concern that is participating in the joint venture: _____.]

(3) Address. The offeror represents that its address _____ is, _____ is not in a region for which a small disadvantaged business procurement mechanism is authorized and its address has not changed since its certification as a small disadvantaged business concern or submission of its application for certification. The list of authorized small disadvantaged business procurement mechanisms and regions is posted at <http://www.arnet.gov/References/sdbadjustments.htm>. The offeror shall use the list in effect on the date of this solicitation. ``Address," as used in this provision, means the address of the offeror as listed on the Small Business Administrations register of small disadvantaged business concerns or the address on the completed application that the concern has submitted to the Small Business Administration or a Private Certifier in accordance with 13 CFR part 124, subpart B. For joint ventures, ``address" refers to the address of the small disadvantaged business concern that is participating in the joint venture.

(c) Penalties and Remedies. Anyone who misrepresents any aspects of the disadvantaged status of a concern for the purposes of securing a contract or subcontract shall:

(1) Be punished by imposition of a fine, imprisonment, or both;

(2) Be subject to administrative remedies, including suspension and debarment; and

(3) Be ineligible for participation in programs conducted under the authority of the Small Business Act.

52.222-21 PROHIBITION OF SEGREGATED FACILITIES (FEB 1999)

(a) Segregated facilities, as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(b) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

(End of clause)

52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that --

(a) It has, has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;

(b) It has, has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

52.223-13 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (OCT 2000)

(a) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995.

(b) By signing this offer, the offeror certifies that--

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (Check each block that is applicable.)

(i) The facility does not manufacture, process or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

(ii) The facility does not have 10 or more full-time employees as specified in section 313.(b)(1)(A) of EPCRA 42 U.S.C. 11023(b)(1)(A);

(iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

(iv) The facility does not fall within Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or

[] (v) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

252.204-7001 COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CODE REPORTING (AUG 1999)

(a) The offeror is requested to enter its CAGE code on its offer in the block with its name and address. The CAGE code entered must be for that name and address. Enter "CAGE" before the number.

(b) If the offeror does not have a CAGE code, it may ask the Contracting Officer to request one from the Defense Logistics Information Service (DLIS). The Contracting Officer will--

(1) Ask the Contractor to complete section B of a DD Form 2051, Request for Assignment of a Commercial and Government Entity (CAGE) Code;

(2) Complete section A and forward the form to DLIS; and

(3) Notify the Contractor of its assigned CAGE code.

(c) Do not delay submission of the offer pending receipt of a CAGE code.

(End of provision)

252.204-7004 REQUIRED CENTRAL CONTRACTOR REGISTRATION.(MAR 2000)

(a) Definitions.

As used in this clause--

(1) Central Contractor Registration (CCR) database means the primary DoD repository for contractor information required for the conduct of business with DoD.

(2) Data Universal Numbering System (DUNS) number means the 9-digit number assigned by Dun and Bradstreet Information Services to identify unique business entities.

(3) Data Universal Numbering System +4 (DUNS+4) number means the DUNS number assigned by Dun and Bradstreet plus a 4-digit suffix that may be assigned by a parent (controlling) business concern. This 4-digit suffix may be assigned at the discretion of the parent business concern for such purposes as identifying subunits or affiliates of the parent business concern.

(4) Registered in the CCR database means that all mandatory information, including the DUNS number or the DUNS+4 number, if applicable, and the corresponding Commercial and Government Entity (CAGE) code, is in the CCR database; the DUNS number and the CAGE code have been validated; and all edits have been successfully completed.

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee must be registered in the CCR database prior to award, during performance, and through final payment of any contract resulting from this solicitation, except for awards to foreign vendors for work to be performed outside the United States.

(2) The offeror shall provide its DUNS or, if applicable, its DUNS+4 number with its offer, which will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(3) Lack of registration in the CCR database will make an offeror ineligible for award.

(4) DoD has established a goal of registering an applicant in the CCR database within 48 hours after receipt of a complete and accurate application via the Internet. However, registration of an applicant submitting an application through a method other than the Internet may take up to 30 days. Therefore, offerors that are not registered should consider applying for registration immediately upon receipt of this solicitation.

(c) The Contractor is responsible for the accuracy and completeness of the data within the CCR, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to confirm on an annual basis that its information in the CCR database is accurate and complete.

(d) Offerors and contractors may obtain information on registration and annual confirmation requirements by calling 1-888-227-2423, or via the Internet at <http://www.ccr2000.com>.

(End of clause)

252.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) "Definitions."

As used in this provision --

(a) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.

(2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export Administration Act of 1979 (50 U.S.C. App. 2405(j)(i)(A)), to be a country the government of which has repeatedly provided support for such acts of international terrorism. As of the date of this provision, terrorist countries include: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

(3) "Significant interest" means --

(i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtedness of a firm.

(b) "Prohibition on award."

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary or, in the case of a

subsidiary, the firm that owns the subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) "Disclosure."

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclose such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include --

(1) Identification of each government holding a significant interest; and

(2) A description of the significant interest held by each government.

(End of provision)

252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it:

___ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

___ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

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SECTION 00700

52.202-1 DEFINITIONS. (MAY 2001)

(a) Agency head or head of the agency means the Secretary (Attorney General, Administrator, Governor, Chairperson, or other chief official, as appropriate) of the agency, unless otherwise indicated, including any deputy or assistant chief official of the executive agency.

(b) Commercial component means any component that is a commercial item.

(c) Commercial item means--

(1) Any item, other than real property, that is of a type customarily used for nongovernmental purposes and that--

(i) Has been sold, leased, or licensed to the general public; or

(ii) Has been offered for sale, lease, or license to the general public;

(2) Any item that evolved from an item described in paragraph (c)(1) of this clause through advances in technology or performance and that is not yet available in the commercial marketplace, but will be available in the commercial marketplace in time to satisfy the delivery requirements under a Government solicitation;

(3) Any item that would satisfy a criterion expressed in paragraphs (c)(1) or (c)(2) of this clause, but for--

(i) Modifications of a type customarily available in the commercial marketplace; or

(ii) Minor modifications of a type not customarily available in the commercial marketplace made to meet Federal Government requirements. "Minor" modifications means modifications that do not significantly alter the nongovernmental function or essential physical characteristics of an item or component, or change the purpose of a process. Factors to be considered in determining whether a modification is minor include the value and size of the modification and the comparative value and size of the final product. Dollar values and percentages may be used as guideposts, but are not conclusive evidence that a modification is minor;

(4) Any combination of items meeting the requirements of paragraphs (c)(1), (2), (3), or (5) of this clause that are of a type customarily combined and sold in combination to the general public;

(5) Installation services, maintenance services, repair services, training services, and other services if such services are procured for support of an item referred to in paragraphs (c)(1), (2), (3), or (4) of this clause, and if the source of such services--

(i) Offers such services to the general public and the Federal Government contemporaneously and under similar terms and conditions; and

(ii) Offers to use the same work force for providing the Federal Government with such services as the source uses for providing such services to the general public;

(6) Services of a type offered and sold competitively in substantial quantities in the commercial marketplace based on established catalog or market prices for specific tasks performed under standard commercial terms and conditions. This does not include services that are sold based on hourly rates without an established catalog or market price for a specific service performed;

(7) Any item, combination of items, or service referred to in subparagraphs (c)(1) through (c)(6), notwithstanding the fact that the item, combination of items, or service is transferred between or among separate divisions, subsidiaries, or affiliates of a Contractor; or

(8) A nondevelopmental item, if the procuring agency determines the item was developed exclusively at private expense and sold in substantial quantities, on a competitive basis, to multiple State and local Governments.

(d) Component means any item supplied to the Government as part of an end item or of another component, except that for use in 52.225-9, and 52.225-11 see the definitions in 52.225-9(a) and 52.225-11(a).

(e) Contracting Officer means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(f) Nondevelopmental item means--

(1) Any previously developed item of supply used exclusively for governmental purposes by a Federal agency, a State or local government, or a foreign government with which the United States has a mutual defense cooperation agreement;

(2) Any item described in paragraph (f)(1) of this definition that requires only minor modification or modifications of a type customarily available in the commercial marketplace in order to meet the requirements of the procuring department or agency; or

(3) Any item of supply being produced that does not meet the requirements of paragraph (f)(1) or (f)(2) solely because the item is not yet in use.

(g) Except as otherwise provided in this contract, the term "subcontracts" includes, but is not limited to, purchase orders and changes and modifications to purchase orders under this contract.

(End of clause)

52.203-3 GRATUITIES (APR 1984)

(a) The right of the Contractor to proceed may be terminated by written notice if, after notice and hearing, the agency head or a designee determines that the Contractor, its agent, or another representative--

(1) Offered or gave a gratuity (e.g., an entertainment or gift) to an officer, official, or employee of the Government; and

(2) Intended, by the gratuity, to obtain a contract or favorable treatment under a contract.

(b) The facts supporting this determination may be reviewed by any court having lawful jurisdiction.

(c) If this contract is terminated under paragraph (a) of this clause, the Government is entitled--

(1) To pursue the same remedies as in a breach of the contract; and

(2) In addition to any other damages provided by law, to exemplary damages of not less than 3 nor more than 10 times the cost incurred by the Contractor in giving gratuities to the person concerned, as determined by the agency head or a designee. (This subparagraph (c)(2) is applicable only if this contract uses money appropriated to the Department of Defense.)

(d) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-5 COVENANT AGAINST CONTINGENT FEES (APR 1984)

(a) The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of the contingent fee.

(b) "Bona fide agency," as used in this clause, means an established commercial or selling agency, maintained by a contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.

"Bona fide employee," as used in this clause, means a person, employed by a contractor and subject to the contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.

"Contingent fee," as used in this clause, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Government contract.

"Improper influence," as used in this clause, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

(End of clause)

52.203-6 RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT (JUL 1995)

(a) Except as provided in (b) of this clause, the Contractor shall not enter into any agreement with an actual or prospective subcontractor, nor otherwise act in any manner, which has or may have the effect of restricting sales by such subcontractors directly to the Government of any item or process (including computer software) made or furnished by the subcontractor under this contract or under any follow-on production contract.

(b) The prohibition in (a) of this clause does not preclude the Contractor from asserting rights that are otherwise authorized by law or regulation.

(c) The Contractor agrees to incorporate the substance of this clause, including this paragraph (c), in all subcontracts under this contract which exceed \$100,000.

52.203-7 ANTI-KICKBACK PROCEDURES. (JUL 1995)

(a) Definitions.

"Kickback," as used in this clause, means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided, directly or indirectly, to any prime Contractor, prime Contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a subcontract relating to a prime contract.

"Person," as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

"Prime contract," as used in this clause, means a contract or contractual action entered into by the United States for

the purpose of obtaining supplies, materials, equipment, or services of any kind.

"Prime Contractor," as used in this clause, means a person who has entered into a prime contract with the United States.

"Prime Contractor employee," as used in this clause, means any officer, partner, employee, or agent of a prime Contractor.

"Subcontract," as used in this clause, means a contract or contractual action entered into by a prime Contractor or subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a prime contract.

"Subcontractor," as used in this clause, (1) means any person, other than the prime Contractor, who offers to furnish or furnishes any supplies, materials, equipment, or services of any kind under a prime contract or a subcontract entered into in connection with such prime contract, and (2) includes any person who offers to furnish or furnishes general supplies to the prime Contractor or a higher tier subcontractor.

"Subcontractor employee," as used in this clause, means any officer, partner, employee, or agent of a subcontractor.

(b) The Anti-Kickback Act of 1986 (41 U.S.C. 51-58) (the Act), prohibits any person from -

(1) Providing or attempting to provide or offering to provide any kickback;

(2) Soliciting, accepting, or attempting to accept any kickback; or

(3) Including, directly or indirectly, the amount of any kickback in the contract price charged by a prime Contractor to the United States or in the contract price charged by a subcontractor to a prime Contractor or higher tier subcontractor.

(c)(1) The Contractor shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in paragraph (b) of this clause in its own operations and direct business relationships.

(2) When the Contractor has reasonable grounds to believe that a violation described in paragraph (b) of this clause may have occurred, the Contractor shall promptly report in writing the possible violation. Such reports shall be made to the inspector general of the contracting agency, the head of the contracting agency if the agency does not have an inspector general, or the Department of Justice.

(3) The Contractor shall cooperate fully with any Federal agency investigating a possible violation described in paragraph (b) of this clause.

(4) The Contracting Officer may (i) offset the amount of the kickback against any monies owed by the United States under the prime contract and/or (ii) direct that the Prime Contractor withhold, from sums owed a subcontractor under the prime contract, the amount of any kickback. The Contracting Officer may order the monies withheld under subdivision (c)(4)(ii) of this clause be paid over to the Government unless the Government has already offset those monies under subdivision (c)(4)(i) of this clause. In either case, the Prime Contractor shall notify the Contracting Officer when the monies are withheld.

(5) The Contractor agrees to incorporate the substance of this clause, including this subparagraph (c)(5) but excepting subparagraph (c)(1), in all subcontracts under this contract which exceed \$100,000.

52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) If the Government receives information that a contractor or a person has engaged in conduct constituting a violation of subsection (a), (b), (c), or (d) of Section 27 of the Office of Federal Procurement Policy Act (41 U.S.C. 423) (the Act), as amended by section 4304 of the 1996 National Defense Authorization Act for Fiscal Year 1996 (Pub. L. 104-106), the Government may--

(1) Cancel the solicitation, if the contract has not yet been awarded or issued; or

(2) Rescind the contract with respect to which--

(i) The Contractor or someone acting for the Contractor has been convicted for an offense where the conduct constitutes a violation of subsection 27 (a) or (b) of the Act for the purpose of either--

(A) Exchanging the information covered by such subsections for anything of value; or

(B) Obtaining or giving anyone a competitive advantage in the award of a Federal agency procurement contract; or

(ii) The head of the contracting activity has determined, based upon a preponderance of the evidence, that the Contractor or someone acting for the Contractor has engaged in conduct constituting an offense punishable under subsections 27(e)(1) of the Act.

(b) If the Government rescinds the contract under paragraph (a) of this clause, the Government is entitled to recover, in addition to any penalty prescribed by law, the amount expended under the contract.

(c) The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law, regulation, or under this contract.

52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) The Government, at its election, may reduce the price of a fixed-price type contract and the total cost and fee under a cost-type contract by the amount of profit or fee determined as set forth in paragraph (b) of this clause if the head of the contracting activity or designee determines that there was a violation of subsection 27 (a), (b), or (c) of the Office of Federal Procurement Policy Act, as amended (41 U.S.C. 423), as implemented in section 3.104 of the Federal Acquisition Regulation.

(b) The price or fee reduction referred to in paragraph (a) of this clause shall be--

(1) For cost-plus-fixed-fee contracts, the amount of the fee specified in the contract at the time of award;

(2) For cost-plus-incentive-fee contracts, the target fee specified in the contract at the time of award, notwithstanding any minimum fee or "fee floor" specified in the contract;

(3) For cost-plus-award-fee contracts--

(i) The base fee established in the contract at the time of contract award;

(ii) If no base fee is specified in the contract, 30 percent of the amount of each award fee otherwise payable to the Contractor for each award fee evaluation period or at each award fee determination point.

(4) For fixed-price-incentive contracts, the Government may--

- (i) Reduce the contract target price and contract target profit both by an amount equal to the initial target profit specified in the contract at the time of contract award; or
 - (ii) If an immediate adjustment to the contract target price and contract target profit would have a significant adverse impact on the incentive price revision relationship under the contract, or adversely affect the contract financing provisions, the Contracting Officer may defer such adjustment until establishment of the total final price of the contract. The total final price established in accordance with the incentive price revision provisions of the contract shall be reduced by an amount equal to the initial target profit specified in the contract at the time of contract award and such reduced price shall be the total final contract price.
- (5) For firm-fixed-price contracts, by 10 percent of the initial contract price or a profit amount determined by the Contracting Officer from records or documents in existence prior to the date of the contract award.
- (c) The Government may, at its election, reduce a prime contractor's price or fee in accordance with the procedures of paragraph (b) of this clause for violations of the Act by its subcontractors by an amount not to exceed the amount of profit or fee reflected in the subcontract at the time the subcontract was first definitively priced.
- (d) In addition to the remedies in paragraphs (a) and (c) of this clause, the Government may terminate this contract for default. The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JUN 1997)

(a) Definitions.

"Agency," as used in this clause, means executive agency as defined in 2.101.

"Covered Federal action," as used in this clause, means any of the following Federal actions:

- (1) The awarding of any Federal contract.
- (2) The making of any Federal grant.
- (3) The making of any Federal loan.
- (4) The entering into of any cooperative agreement.
- (5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

"Indian tribe" and "tribal organization," as used in this clause, have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) and include Alaskan Natives.

"Influencing or attempting to influence," as used in this clause, means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

"Local government," as used in this clause, means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

"Officer or employee of an agency," as used in this clause, includes the following individuals who are employed by an agency:

- (1) An individual who is appointed to a position in the Government under title 5, United States Code, including a position under a temporary appointment.
- (2) A member of the uniformed services, as defined in subsection 101(3), title 37, United States Code.
- (3) A special Government employee, as defined in section 202, title 18, United States Code.
- (4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, title 5, United States Code, appendix 2.

"Person," as used in this clause, means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit, or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable compensation," as used in this clause, means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable payment," as used in this clause, means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient," as used in this clause, includes the Contractor and all subcontractors. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed," as used in this clause, means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

"State," as used in this clause, means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, a territory or possession of the United States, an agency or instrumentality of a State, and multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibitions.

(1) Section 1352 of title 31, United States Code, among other things, prohibits a recipient of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(2) The Act also requires Contractors to furnish a disclosure if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

(3) The prohibitions of the Act do not apply under the following conditions:

(i) Agency and legislative liaison by own employees.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action if the payment is for agency and legislative liaison activities not directly related to a covered Federal action.

(B) For purposes of subdivision (b)(3)(i)(A) of this clause, providing any information specifically requested by an agency or Congress is permitted at any time.

(C) The following agency and legislative liaison activities are permitted at any time where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency the qualities and characteristics (including individual demonstrations) of the person's products or services, conditions or terms of sale, and service capabilities.

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(D) The following agency and legislative liaison activities are permitted where they are prior to formal solicitation of any covered Federal action--

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Pub. L. 95-507, and subsequent amendments.

(E) Only those services expressly authorized by subdivision (b)(3)(i)(A) of this clause are permitted under this clause.

(ii) Professional and technical services.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of--

(1) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(2) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(B) For purposes of subdivision (b)(3)(ii)(A) of this clause, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an

engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation and any other requirements in the actual award documents.

(D) Only those services expressly authorized by subdivisions (b)(3)(ii)(A)(1) and (2) of this clause are permitted under this clause.

(E) The reporting requirements of FAR 3.803(a) shall not apply with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

(c) Disclosure.

(1) The Contractor who requests or receives from an agency a Federal contract shall file with that agency a disclosure form, OMB standard form LLL, Disclosure of Lobbying Activities, if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under subparagraph (b)(1) of this clause, if paid for with appropriated funds.

(2) The Contractor shall file a disclosure form at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under subparagraph (c)(1) of this clause. An event that materially affects the accuracy of the information reported includes--

(i) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(ii) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(iii) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(3) The Contractor shall require the submittal of a certification, and if required, a disclosure form by any person who requests or receives any subcontract exceeding \$100,000 under the Federal contract.

(4) All subcontractor disclosure forms (but not certifications) shall be forwarded from tier to tier until received by the prime Contractor. The prime Contractor shall submit all disclosures to the Contracting Officer at the end of the calendar quarter in which the disclosure form is submitted by the subcontractor. Each subcontractor certification shall be retained in the subcontract file of the awarding Contractor.

(d) Agreement. The Contractor agrees not to make any payment prohibited by this clause.

(e) Penalties.

(1) Any person who makes an expenditure prohibited under paragraph (a) of this clause or who fails to file or amend the disclosure form to be filed or amended by paragraph (b) of this clause shall be subject to civil penalties as

provided for by 31 U.S.C. 1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(2) Contractors may rely without liability on the representation made by their subcontractors in the certification and disclosure form.

(f) Cost allowability. Nothing in this clause makes allowable or reasonable any costs which would otherwise be unallowable or unreasonable. Conversely, costs made specifically unallowable by the requirements in this clause will not be made allowable under any other provision.

(End of clause)

52.204-1 APPROVAL OF CONTRACT (DEC 1989)

This contract is subject to the written approval of **the Contracting Officer** and shall not be binding until so approved.

(End of clause)

52.204-4 PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER (AUG 2000)

(a) Definitions. As used in this clause--

Postconsumer material means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of "recovered material." For paper and paper products, postconsumer material means "postconsumer fiber" defined by the U.S. Environmental Protection Agency (EPA) as--

(1) Paper, paperboard, and fibrous materials from retail stores, office buildings, homes, and so forth, after they have passed through their end-usage as a consumer item, including: used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards; and used cordage; or

(2) All paper, paperboard, and fibrous materials that enter and are collected from municipal solid waste; but not

(3) Fiber derived from printers' over-runs, converters' scrap, and over-issue publications.

Printed or copied double-sided means printing or reproducing a document so that information is on both sides of a sheet of paper.

Recovered material, for paper and paper products, is defined by EPA in its Comprehensive Procurement Guideline as "recovered fiber" and means the following materials:

(1) Postconsumer fiber; and

(2) Manufacturing wastes such as--

(i) Dry paper and paperboard waste generated after completion of the papermaking process (that is, those manufacturing operations up to and including the cutting and trimming of the paper machine reel into smaller rolls or rough sheets) including: envelope cuttings, bindery trimmings, and other paper and paperboard waste resulting from printing, cutting, forming, and other converting operations; bag, box, and carton manufacturing wastes; and butt rolls, mill wrappers, and rejected unused stock; and

(ii) Repulped finished paper and paperboard from obsolete inventories of paper and paperboard manufacturers, merchants, wholesalers, dealers, printers, converters, or others.

(b) In accordance with Section 101 of Executive Order 13101 of September 14, 1998, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, the Contractor is encouraged to submit paper

documents, such as offers, letters, or reports, that are printed or copied double-sided on recycled paper that meet minimum content standards specified in Section 505 of Executive Order 13101, when not using electronic commerce methods to submit information or data to the Government.

(c) If the Contractor cannot purchase high-speed copier paper, offset paper, forms bond, computer printout paper, carbonless paper, file folders, white wove envelopes, writing and office paper, book paper, cotton fiber paper, and cover stock meeting the 30 percent postconsumer material standard for use in submitting paper documents to the Government, it should use paper containing no less than 20 percent postconsumer material. This lesser standard should be used only when paper meeting the 30 percent postconsumer material standard is not obtainable at a reasonable price or does not meet reasonable performance standards.

(End of clause)

52.209-6 Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment (JUL 1995)

(a) The Government suspends or debar Contractors to protect the Government's interests. The Contractor shall not enter into any subcontract in excess of the \$25,000 with a Contractor that is debarred, suspended, or proposed for debarment unless there is a compelling reason to do so.

(b) The Contractor shall require each proposed first-tier subcontractor, whose subcontract will exceed \$25,000, to disclose to the Contractor, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principals, is or is not debarred, suspended, or proposed for debarment by the Federal Government.

(c) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs). The notice must include the following:

(1) The name of the subcontractor.

(2) The Contractor's knowledge of the reasons for the subcontractor being on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(3) The compelling reason(s) for doing business with the subcontractor notwithstanding its inclusion on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(4) The systems and procedures the Contractor has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.

(End of clause)

52.214-26 Audit and Records--Sealed Bidding. (OCT 1997)

(a) As used in this clause, records includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.

(b) Cost or pricing data. If the Contractor has been required to submit cost or pricing data in connection with the pricing of any modification to this contract, the Contracting Officer, or an authorized representative of the Contracting Officer, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data, shall have the right to examine and audit all of the Contractor's records, including computations and projections, related to--

- (1) The proposal for the modification;
- (2) The discussions conducted on the proposal(s), including those related to negotiating;
- (3) Pricing of the modification; or
- (4) Performance of the modification.

(c) Comptroller General. In the case of pricing any modification, the Comptroller General of the United States, or an authorized representative, shall have the same rights as specified in paragraph (b) of this clause.

(d) Availability. The Contractor shall make available at its office at all reasonable times the materials described in reproduction, until 3 years after final payment under this contract, or for any other period specified in Subpart 4.7 of the Federal Acquisition Regulation (FAR). FAR Subpart 4.7, Contractor Records Retention, in effect on the date of this contract, is incorporated by reference in its entirety and made a part of this contract.

(1) If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement.

(2) Records pertaining to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to the performance of this contract shall be made available until disposition of such appeals, litigation, or claims.

(e) The Contractor shall insert a clause containing all the provisions of this clause, including this paragraph (e), in all subcontracts expected to exceed the threshold in FAR 15.403-4(a)(1) for submission of cost or pricing data.

52.214-27 Price Reduction for Defective Cost or Pricing Data - Modifications - Sealed Bidding. (OCT 1997)

(a) This clause shall become operative only for any modification to this contract involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for the submission of cost or pricing data at FAR 15.403-4(a)(1), except that this clause does not apply to a modification if an exception under FAR 15.403-1(b) applies.

(1) Based on adequate price competition;

(2) Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or

(3) Set by law or regulation.

(b) If any price, including profit, negotiated in connection with any modification under this clause, was increased by any significant amount because

(1) the Contractor or a subcontractor furnished cost or pricing data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data;

(2) a subcontractor or prospective subcontractor furnished the Contractor cost or pricing data that were not complete, accurate, and current as certified in the Contractor's Certificate of Current Cost or Pricing Data; or

(3) any of these parties furnished data of any description that were not accurate, the price shall be reduced accordingly and the contract shall be modified to reflect the reduction. This right to a price reduction is limited to that resulting from defects in data relating to modifications for which this clause becomes operative under paragraph (a) above.

(c) Any reduction in the contract price under paragraph (b) above due to defective data from a prospective subcontractor that was not subsequently awarded the subcontract shall be limited to the amount, plus applicable overhead and profit markup, by which:

(1) the actual subcontract; or

(2) the actual cost to the Contractor, if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor; provided, that the actual subcontract price was not itself affected by defective cost or pricing data.

(d) If the Contracting Officer determines under paragraph (b) of this clause that a price or cost reduction should be made:

(1) the Contractor agrees not to raise the following matters as a defense:

(i) The Contractor or subcontractor was a sole source supplier or otherwise was in a superior bargaining position and thus the price of the contract would not have been modified even if accurate, complete, and current cost or pricing data had been submitted;

(ii) The Contracting Officer should have known that the cost or pricing data in issue were defective even though the Contractor or subcontractor took no affirmative action to bring the character of the data to the attention of the Contracting Officer;

(iii) The contract was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under the contract; or

(iv) The Contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data.

(2) Except as prohibited by subdivision (d)(2)(ii) of this clause:

(i) an offset in an amount determined appropriate by the Contracting Officer based upon the facts shall be allowed against the amount of a contract price reduction if:

(A) The Contractor certifies to the Contracting Officer that, to the best of the Contractor's knowledge and belief, the Contractor is entitled to the offset in the amount requested; and

(B) The Contractor proves that the cost or pricing data were available before the date of agreement on the price of the contract (or price of the modification) and that the data were not submitted before such date.

(ii) An offset shall not be allowed if:

(A) The understated data was known by the Contractor to be understated when the Certificate of Current Cost or Pricing Data was signed; or (B) The Government proves that the facts demonstrate that the contract price would not have increased in the amount to be offset even if the available data had been submitted before the date of agreement on price.

(e) If any reduction in the contract price under this clause reduces the price of items for which payment was made prior to the date of the modification reflecting the price reduction, the Contractor shall be liable to and shall pay the United States at the time such overpayment is repaid:

(1) Simple interest on the amount of such overpayment to be computed from the date(s) of overpayment to the Contractor to the date the Government is repaid by the Contractor at the applicable underpayment rate effective for each quarter prescribed by the Secretary of the Treasury under 26 U.S.C. 6621(a)(2); and

(2) A penalty equal to the amount of the overpayment, if the Contractor or subcontractor knowingly submitted cost or pricing data which were incomplete, inaccurate, or noncurrent.

52.214-28 Subcontractor Cost or Pricing Data - Modifications - Sealed Bidding. (OCT 1997)

(a) The requirements of paragraphs (b) and (c) of this clause shall:

(1) become operative only for any modification to this contract involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for submission of cost or pricing data at (FAR) 48 CFR 15.403-4(a)(1); and

(2) be limited to such modifications.

(b) Before awarding any subcontract expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1), on the date of agreement on price or the date of award, whichever is later; or before pricing any subcontract modifications involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1), the Contractor shall require the subcontractor to submit cost or pricing data (actually or by specific identification in writing), unless an exception under FAR 15.403-1(b) applies.

(1) Based on adequate price competition;

(2) Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or

(3) Set by law or regulation.

(c) The Contractor shall require the subcontractor to certify in substantially the form prescribed in subsection 15.406-2 of the Federal Acquisition Regulation that, to the best of its knowledge and belief, the data submitted under paragraph (b) above were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract modification.

(d) The Contractor shall insert the substance of this clause, including this paragraph (d), in each subcontract that, when entered into, exceeds the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1).

52.215-19 NOTIFICATION OF OWNERSHIP CHANGES (OCT 1997)

(a) The Contractor shall make the following notifications in writing:

(1) When the Contractor becomes aware that a change in its ownership has occurred, or is certain to occur, that could result in changes in the valuation of its capitalized assets in the accounting records, the Contractor shall notify the Administrative Contracting Officer (ACO) within 30 days.

(2) The Contractor shall also notify the ACO within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership.

(b) The Contractor shall--

(1) Maintain current, accurate, and complete inventory records of assets and their costs;

(2) Provide the ACO or designated representative ready access to the records upon request;

(3) Ensure that all individual and grouped assets, their capitalized values, accumulated depreciation or amortization, and remaining useful lives are identified accurately before and after each of the Contractor's ownership changes; and

(4) Retain and continue to maintain depreciation and amortization schedules based on the asset records maintained before each Contractor ownership change.

The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirement of FAR 15.408(k).

(End of clause)

52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (OCT 2000)

(a) It is the policy of the United States that small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency, including contracts and subcontracts for subsystems, assemblies, components, and related services for major systems. It is further the policy of the United States that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts with small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns.

(b) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with efficient contract performance. The Contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the Contractor's compliance with this clause.

Definitions. As used in this contract--

HUBZone small business concern means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern means a small business as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto.

Small disadvantaged business concern means a small business concern that represents, as part of its offer that--

(1) It has received certification as a small disadvantaged business concern consistent with 13 CFR part 124, subpart B;

(2) No material change in disadvantaged ownership and control has occurred since its certification;

(3) Where the concern is owned by one or more individuals, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(4) It is identified, on the date of its representation, as a certified small disadvantaged business in the database maintained by the Small Business Administration (PRO-Net).

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern--

(1) That is at least 51 percent owned by one or more women, or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as a small business concern, a veteran-owned small business concern, a service-disabled veteran-owned small business concern, a HUBZone small business concern, a small disadvantaged business concern, or a women-owned small business concern.

(End of clause)

52.219-14 LIMITATIONS ON SUBCONTRACTING (DEC 1996)

(a) This clause does not apply to the unrestricted portion of a partial set-aside.

(b) By submission of an offer and execution of a contract, the Offeror/Contractor agrees that in performance of the contract in the case of a contract for--

(1) Services (except construction). At least 50 percent of the cost of contract performance incurred for personnel shall be expended for employees of the concern.

(2) Supplies (other than procurement from a nonmanufacturer of such supplies). The concern shall perform work for at least 50 percent of the cost of manufacturing the supplies, not including the cost of materials.

(3) General construction. The concern will perform at least 15 percent of the cost of the contract, not including the cost of materials, with its own employees.

(4) Construction by special trade contractors. The concern will perform at least 25 percent of the cost of the contract, not including the cost of materials, with its own employees.

52.219-25 SMALL DISADVANTAGED BUSINESS PARTICIPATION PROGRAM—DISADVANTAGED STATUS AND REPORTING (OCT 1999)

(a) Disadvantaged status for joint venture partners, team members, and subcontractors. This clause addresses disadvantaged status for joint venture partners, teaming arrangement members, and subcontractors and is applicable if this contract contains small disadvantaged business (SDB) participation targets. The Contractor shall obtain

representations of small disadvantaged status from joint venture partners, teaming arrangement members, and subcontractors through use of a provision substantially the same as paragraph (b)(1)(i) of the provision at FAR 52.219-22, Small Disadvantaged Business Status. The Contractor shall confirm that a joint venture partner, team member, or subcontractor representing itself as a small disadvantaged business concern, is identified as a certified small disadvantaged business in the database maintained by the Small Business Administration (PRO-Net) or by contacting the SBA's Office of Small Disadvantaged Business Certification and Eligibility.

(b) Reporting requirement. If this contract contains SDB participation targets, the Contractor shall report on the participation of SDB concerns at contract completion, or as otherwise provided in this contract. Reporting may be on Optional Form 312, Small Disadvantaged Business Participation Report, or in the Contractor's own format providing the same information. This report is required for each contract containing SDB participation targets. If this contract contains an individual Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan, reports may be submitted with the final Subcontracting Report for Individual Contracts (Standard Form 294) at the completion of the contract.

(End of clause)

52.222-3 Convict Labor (Aug 1996)

The Contractor agrees not to employ in the performance of this contract any person undergoing a sentence of imprisonment which has been imposed by any court of a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or the Trust Territory of the Pacific Islands. This limitation, however, shall not prohibit the employment by the Contractor in the performance of this contract of persons on parole or probation to work at paid employment during the term of their sentence or persons who have been pardoned or who have served their terms. Nor shall it prohibit the employment by the Contractor in the performance of this contract of persons confined for violation of the laws of any of the States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or the Trust Territory of the Pacific Islands who are authorized to work at paid employment in the community under the laws of such jurisdiction, if--

- (a)(1) The worker is paid or is in an approved work training program on a voluntary basis;
 - (2) Representatives of local union central bodies or similar labor union organizations have been consulted;
 - (3) Such paid employment will not result in the displacement of employed workers, or be applied in skills, crafts, or trades in which there is a surplus of available gainful labor in the locality, or impair existing contracts for services; and
 - (4) The rates of pay and other conditions of employment will not be less than those paid or provided for work of a similar nature in the locality in which the work is being performed; and
- (b) The Attorney General of the United States has certified that the work-release laws or regulations of the jurisdiction involved are in conformity with the requirements of Executive Order 11755, as amended by Executive Orders 12608 and 12943.

(End of clause)

52.222-4 Contract Work Hours and Safety Standards Act - Overtime Compensation. (SEP 2000)

(a) Overtime requirements. No Contractor or subcontractor employing laborers or mechanics (see Federal Acquisition Regulation 22.300) shall require or permit them to work over 40 hours in any workweek unless they are paid at least 1 and 1/2 times the basic rate of pay for each hour worked over 40 hours.

(b) Violation; liability for unpaid wages; liquidated damages. The responsible Contractor and subcontractor are liable for unpaid wages if they violate the terms in paragraph (a) of this clause. In addition, the Contractor and subcontractor are liable for liquidated damages payable to the Government. The Contracting Officer will assess

liquidated damages at the rate of \$10 per affected employee for each calendar day on which the employer required or permitted the employee to work in excess of the standard workweek of 40 hours without paying overtime wages required by the Contract Work Hours and Safety Standards Act.

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer will withhold from payments due under the contract sufficient funds required to satisfy any Contractor or subcontractor liabilities for unpaid wages and liquidated damages. If amounts withheld under the contract are insufficient to satisfy Contractor or subcontractor liabilities, the Contracting Officer will withhold payments from other Federal or Federally assisted contracts held by the same Contractor that are subject to the Contract Work Hours and Safety Standards Act.

(d) Payrolls and basic records.

(1) The Contractor and its subcontractors shall maintain payrolls and basic payroll records for all laborers and mechanics working on the contract during the contract and shall make them available to the Government until 3 years after contract completion. The records shall contain the name and address of each employee, social security number, labor classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. The records need not duplicate those required for construction work by Department of Labor regulations at 29 CFR 5.5(a)(3) implementing the Davis-Bacon Act.

(2) The Contractor and its subcontractors shall allow authorized representatives of the Contracting Officer or the Department of Labor to inspect, copy, or transcribe records maintained under paragraph (d)(1) of this clause. The Contractor or subcontractor also shall allow authorized representatives of the Contracting Officer or Department of Labor to interview employees in the workplace during working hours.

(e) Subcontracts. The Contractor shall insert the provisions set forth in paragraphs (a) through (d) of this clause in subcontracts exceeding \$100,000 and require subcontractors to include these provisions in any lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the provisions set forth in paragraphs (a) through (d) of this clause.

(End of clause)

52.222-6 DAVIS-BACON ACT (FEB 1995)

(a) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (d) of this clause; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such period. Such laborers and mechanics shall be paid not less than the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in the clause entitled Apprentices and Trainees. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (b) of this clause) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(b)(1) The Contracting Officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage

determination. The Contracting Officer shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination.

(ii) The classification is utilized in the area by the construction industry.

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Contracting Officer agree on the classification and wage rate (including the amount designated for fringe benefits, where appropriate), a report of the action taken shall be sent by the Contracting Officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator or an authorized representative will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(3) In the event the Contractor, the laborers or mechanics to be employed in the classification, or their representatives, and the Contracting Officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the Contracting Officer shall refer the questions, including the views of all interested parties and the recommendation of the Contracting Officer, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits, where appropriate) determined pursuant to subparagraphs (b)(2) and (b)(3) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(c) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(d) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

52.222-7 WITHHOLDING OF FUNDS (FEB 1988)

The Contracting Officer shall, upon his or her own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same Prime Contractor, or any other Federally assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same Prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

52.222-8 PAYROLLS AND BASIC RECORDS (FEB 1988)

(a) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of 3 years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under paragraph (d) of the clause entitled Davis-Bacon Act, that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(b)(1) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph (a) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. The Prime Contractor is responsible for the submission of copies of payrolls by all subcontractors.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify--

(i) That the payroll for the payroll period contains the information required to be maintained under paragraph (a) of this clause and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR Part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph (b)(2) of this clause.

(4) The falsification of any of the certifications in this clause may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(c) The Contractor or subcontractor shall make the records required under paragraph (a) of this clause available for inspection, copying, or transcription by the Contracting Officer or authorized representatives of the Contracting Officer or the Department of Labor. The Contractor or subcontractor shall permit the Contracting Officer or representatives of the Contracting Officer or the Department of Labor to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit required records or to make them available, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

52.222-9 APPRENTICES AND TRAINEES (FEB 1988)

(a) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(b) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(c) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

52.222-10 COMPLIANCE WITH COPELAND ACT REQUIREMENTS (FEB 1988)

The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

52.222-11 SUBCONTRACTS (LABOR STANDARDS (FEB 1988)

(a) The Contractor or subcontractor shall insert in any subcontracts the clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act-Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Withholding of Funds, Subcontracts (Labor Standards), Contract Termination-Debarment, Disputes Concerning Labor Standards, Compliance with Davis-Bacon and Related Act Regulations, and Certification of Eligibility, and such other clauses as the Contracting Officer may, by appropriate instructions, require, and also a clause requiring subcontractors to include these clauses in any lower tier subcontracts. The Prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with all the contract clauses cited in this paragraph.

(b)(1) Within 14 days after award of the contract, the Contractor shall deliver to the Contracting Officer a completed Statement and Acknowledgment Form (SF 1413) for each subcontract, including the subcontractor's signed and dated acknowledgment that the clauses set forth in paragraph (a) of this clause have been included in the subcontract.

(2) Within 14 days after the award of any subsequently awarded subcontract the Contractor shall deliver to the Contracting Officer an updated completed SF 1413 for such additional subcontract.

52.222-12 CONTRACT TERMINATION--DEBARMENT (FEB 1988)

A breach of the contract clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act--Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Subcontracts (Labor Standards), Compliance with Davis-Bacon and Related Act Regulations, or Certification of Eligibility may be grounds for termination of the contract, and for debarment as a Contractor and subcontractor as provided in 29 CFR 5.12.

52.222-13 COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS (FEB 1988)

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are hereby incorporated by reference in this contract.

52.222-14 DISPUTES CONCERNING LABOR STANDARDS (FEB 1988)

The United States Department of Labor has set forth in 29 CFR Parts 5, 6, and 7 procedures for resolving disputes concerning labor standards requirements. Such disputes shall be resolved in accordance with those procedures and not the Disputes clause of this contract. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

52.222-15 CERTIFICATION OF ELIGIBILITY (FEB 1988)

(a) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(b) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(c) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

52.222-21 PROHIBITION OF SEGREGATED FACILITIES (FEB 1999)

(a) Segregated facilities, as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(b) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

(End of clause)

52.222-26 EQUAL OPPORTUNITY (FEB 1999)

(a) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of \$10,000, the Contractor shall comply with subparagraphs (b)(1) through (11) of this clause. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(b) During performing this contract, the Contractor agrees as follows:

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(8) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of subparagraphs (b)(1) through (11) of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the contracting officer may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(c) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

52.222-27 AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (FEB 1999)

(a) Definitions. "Covered area," as used in this clause, means the geographical area described in the solicitation for this contract.

"Deputy Assistant Secretary," as used in this clause, means Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, or a designee.

"Employer's identification number," as used in this clause, means the Federal Social Security number used on the employer's quarterly federal tax return, U.S. Treasury Department Form 941.

"Minority," as used in this clause, means--

(1) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(2) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast

Asia, the Indian Subcontinent, or the Pacific Islands);

(3) Black (all persons having origins in any of the black African racial groups not of Hispanic origin); and

(4) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race).

(b) If the Contractor, or a subcontractor at any tier, subcontracts a portion of the work involving any construction trade, each such subcontract in excess of \$10,000 shall include this clause and the Notice containing the goals for minority and female participation stated in the solicitation for this contract.

(c) If the Contractor is participating in a Hometown Plan (41 CFR 60-4) approved by the U.S. Department of Labor in a covered area, either individually or through an association, its affirmative action obligations on all work in the plan area (including goals) shall comply with the plan for those trades that have unions participating in the plan. Contractors must be able to demonstrate participation in, and compliance with, the provisions of the plan. Each Contractor or subcontractor participating in an approved plan is also required to comply with its obligations under the Equal Opportunity clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good-faith performance by other Contractors or subcontractors toward a goal in an approved plan does not excuse any Contractor's or subcontractor's failure to make good-faith efforts to achieve the plan's goals.

(d) The Contractor shall implement the affirmative action procedures in subparagraphs (g)(1) through (16) of this clause. The goals stated in the solicitation for this contract are expressed as percentages of the total hours of employment and training of minority and female utilization that the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical area where that work is actually performed. The Contractor is expected to make substantially uniform progress toward its goals in each craft.

(e) Neither the terms and conditions of any collective bargaining agreement, nor the failure by a union with which the Contractor has a collective bargaining agreement, to refer minorities or women shall excuse the Contractor's obligations under this clause, Executive Order 11246, as amended, or the regulations thereunder.

(f) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(g) The Contractor shall take affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with this clause shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and implement affirmative action steps at least as extensive as the following:

(1) Ensure a working environment free of harassment, intimidation, and coercion at all sites and in all facilities where the Contractor's employees are assigned to work. The Contractor, if possible, will assign two or more women to each construction project. The Contractor shall ensure that foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at these sites or facilities.

(2) Establish and maintain a current list of sources for minority and female recruitment. Provide written notification to minority and female recruitment sources and community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Establish and maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant, referrals of minorities or females from unions, recruitment sources, or community

organizations, and the action taken with respect to each individual. If an individual was sent to the union hiring hall for referral and not referred back to the Contractor by the union or, if referred back, not employed by the Contractor, this shall be documented in the file, along with whatever additional actions the Contractor may have taken.

(4) Immediately notify the Deputy Assistant Secretary when the union or unions with which the Contractor has a collective bargaining agreement has not referred back to the Contractor a minority or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area that expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (g)(2) of this clause.

(6) Disseminate the Contractor's equal employment policy by--

(i) Providing notice of the policy to unions and to training, recruitment, and outreach programs, and requesting their cooperation in assisting the Contractor in meeting its contract obligations;

(ii) Including the policy in any policy manual and in collective bargaining agreements;

(iii) Publicizing the policy in the company newspaper, annual report, etc.;

(iv) Reviewing the policy with all management personnel and with all minority and female employees at least once a year; and

(v) Posting the policy on bulletin boards accessible to employees at each location where construction work is performed.

(7) Review, at least annually, the Contractor's equal employment policy and affirmative action obligations with all employees having responsibility for hiring, assignment, layoff, termination, or other employment decisions. Conduct review of this policy with all on-site supervisory personnel before initiating construction work at a job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's equal employment policy externally by including it in any advertising in the news media, specifically including minority and female news media. Provide written notification to, and discuss this policy with, other Contractors and subcontractors with which the Contractor does or anticipates doing business.

(9) Direct recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than 1 month before the date for acceptance of applications for apprenticeship or training by any recruitment source, send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit minority persons and women. Where reasonable, provide after-school, summer, and vacation employment to minority and female youth both on the site and in other areas of the Contractor's workforce.

(11) Validate all tests and other selection requirements where required under 41 CFR 60-3.

(12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities. Encourage these employees to seek or to prepare for, through appropriate training, etc., opportunities for promotion.

(13) Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the Contractor's obligations under this contract are being carried out.

(14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user rest rooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

(15) Maintain a record of solicitations for subcontracts for minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's equal employment policy and affirmative action obligations.

(h) The Contractor is encouraged to participate in voluntary associations that may assist in fulfilling one or more of the affirmative action obligations contained in subparagraphs (g)(1) through (16) of this clause. The efforts of a contractor association, joint contractor-union, contractor-community, or similar group of which the contractor is a member and participant may be asserted as fulfilling one or more of its obligations under subparagraphs (g)(1) through (16) of this clause, provided the Contractor--

(1) Actively participates in the group;

(2) Makes every effort to ensure that the group has a positive impact on the employment of minorities and women in the industry;

(3) Ensures that concrete benefits of the program are reflected in the Contractor's minority and female workforce participation;

(4) Makes a good-faith effort to meet its individual goals and timetables; and

(5) Can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

(i) A single goal for minorities and a separate single goal for women shall be established. The Contractor is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of Executive Order 11246, as amended, if a particular group is employed in a substantially disparate manner.

(j) The Contractor shall not use goals or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

(k) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts under Executive Order 11246, as amended.

(l) The Contractor shall carry out such sanctions and penalties for violation of this clause and of the Equal Opportunity clause, including suspension, termination, and cancellation of existing subcontracts, as may be imposed or ordered under Executive Order 11246, as amended, and its implementing regulations, by the OFCCP. Any failure to carry out these sanctions and penalties as ordered shall be a violation of this clause and Executive Order 11246, as amended.

(m) The Contractor in fulfilling its obligations under this clause shall implement affirmative action procedures at least as extensive as those prescribed in paragraph (g) of this clause, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of Executive Order 11246, as amended, the implementing regulations, or this clause, the Deputy Assistant Secretary shall take action as prescribed in 41 CFR 60-4.8.

(n) The Contractor shall designate a responsible official to--

(1) Monitor all employment-related activity to ensure that the Contractor's equal employment policy is being carried out;

(2) Submit reports as may be required by the Government; and

(3) Keep records that shall at least include for each employee the name, address, telephone number, construction trade, union affiliation (if any), employee identification number, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, separate records are not required to be maintained.

Nothing contained herein shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

52.222-35 AFFIRMATIVE ACTION FOR DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA (APR 1998)

(a)) Definitions. As used in this clause--

All employment openings includes all positions except executive and top management, those positions that will be filled from within the contractor's organization, and positions lasting 3 days or less. This term includes full-time employment, temporary employment of more than 3 days' duration, and part-time employment.

Appropriate office of the State employment service system means the local office of the Federal-State national system of public employment offices with assigned responsibility to serve the area where the employment opening is to be filled, including the District of Columbia, Guam, the Commonwealth of Puerto Rico, and the Virgin Islands.

Positions that will be filled from within the Contractor's organization means employment openings for which no consideration will be given to persons outside the Contractor's organization (including any affiliates, subsidiaries, and parent companies) and includes any openings that the Contractor proposes to fill from regularly established "recall" lists. The exception does not apply to a particular opening once an employer decides to consider applicants outside of its organization.

Veteran of the Vietnam era means a person who--

(1) Served on active duty for a period of more than 180 days, any part of which occurred between August 5, 1964, and May 7, 1975, and was discharged or released therefrom with other than a dishonorable discharge; or

(2) Was discharged or released from active duty for a service-connected disability if any part of such active duty was performed between August 5, 1964, and May 7, 1975.

(b) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against the individual because the individual is a disabled veteran or a veteran of the Vietnam era. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified disabled veterans and veterans of the Vietnam era without discrimination based upon their disability or veterans' status in all employment practices such as--

(i) Employment;

(ii) Upgrading;

- (iii) Demotion or transfer;
- (iv) Recruitment;
- (v) Advertising;
- (vi) Layoff or termination;
- (vii) Rates of pay or other forms of compensation; and
- (viii) Selection for training, including apprenticeship.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Vietnam Era Veterans' Readjustment Assistance Act of 1972 (the Act), as amended.

(c) Listing openings. (1) The Contractor agrees to list all employment openings existing at contract award or occurring during contract performance, at an appropriate office of the State employment service system in the locality where the opening occurs. These openings include those occurring at any Contractor facility, including one not connected with performing this contract. An independent corporate affiliate is exempt from this requirement.

(2) State and local government agencies holding Federal contracts of \$10,000 or more shall also list all their employment openings with the appropriate office of the State employment service.

(3) The listing of employment openings with the State employment service system is required at least concurrently with using any other recruitment source or effort and involves the obligations of placing a bona fide job order, including accepting referrals of veterans and nonveterans. This listing does not require hiring any particular job applicant or hiring from any particular group of job applicants and is not intended to relieve the Contractor from any requirements of Executive orders or regulations concerning nondiscrimination in employment.

(4) Whenever the Contractor becomes contractually bound to the listing terms of this clause, it shall advise the State employment service system, in each State where it has establishments, of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these terms and has so advised the State system, it need not advise the State system of subsequent contracts. The Contractor may advise the State system when it is no longer bound by this contract clause.

(d) Applicability. This clause does not apply to the listing of employment openings that occur and are filled outside the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, and the Virgin Islands.

(e) Postings. (1) The Contractor agrees to post employment notices stating (i) the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified disabled veterans and veterans of the Vietnam era, and (ii) the rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. They shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, Department of Labor (Deputy Assistant Secretary), and provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of the Act, and is committed to take affirmative action to employ, and advance in employment, qualified disabled veterans and veterans of the Vietnam Era.

(f) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(g) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES (JUN 1998)

(a) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against any employee or applicant because of physical or mental disability. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified individuals with disabilities without discrimination based upon their physical or mental disability in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

(ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff, and rehiring;

(iii) Rates of pay or any other form of compensation and changes in compensation;

(iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

(vii) Selection and financial support for training, including apprenticeships, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the Contractor, including social or recreational programs; and

(ix) Any other term, condition, or privilege of employment.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Rehabilitation Act of 1973 (29 U.S.C. 793) (the Act), as amended.

(b) Postings. (1) The Contractor agrees to post employment notices stating--

(i) The Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified individuals with disabilities; and

(ii) The rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. The Contractor shall ensure that applicants and employees with disabilities are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled individual, or may lower the posted notice so that it might be read by a person in a wheelchair). The notices shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance of the U.S. Department of Labor (Deputy Assistant Secretary) and shall be provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Act and is committed to take affirmative action to employ, and advance in employment, qualified individuals with physical or mental disabilities.

(c) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(d) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of \$10,000 unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

52.222-37 EMPLOYMENT REPORTS ON DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA (JAN 1999)

(a) Unless the Contractor is a State or local government agency, the Contractor shall report at least annually, as required by the Secretary of Labor, on--

(1) The number of disabled veterans and the number of veterans of the Vietnam era in the workforce of the contractor by job category and hiring location; and

(2) The total number of new employees hired during the period covered by the report, and of that total, the number of disabled veterans, and the number of veterans of the Vietnam era.

(b) The above items shall be reported by completing the form entitled "Federal Contractor Veterans' Employment Report VETS-100."

(c) Reports shall be submitted no later than September 30 of each year beginning September 30, 1988.

(d) The employment activity report required by paragraph (a)(2) of this clause shall reflect total hires during the most recent 12-month period as of the ending date selected for the employment profile report required by paragraph (a)(1) of this clause. Contractors may select an ending date: (1) As of the end of any pay period during the period January through March 1st of the year the report is due, or (2) as of December 31, if the contractor has previous written approval from the Equal Employment Opportunity Commission to do so for purposes of submitting the Employer Information Report EEO-1 (Standard Form 100).

(e) The count of veterans reported according to paragraph (a) of this clause shall be based on voluntary disclosure. Each Contractor subject to the reporting requirements at 38 U.S.C. 4212 shall invite all disabled veterans and veterans of the Vietnam era who wish to benefit under the affirmative action program at 38 U.S.C. 4212 to identify themselves to the Contractor. The invitation shall state that the information is voluntarily provided; that the information will be kept confidential; that disclosure or refusal to provide the information will not subject the applicant or employee to any adverse treatment; and that the information will be used only in accordance with the regulations promulgated under 38 U.S.C. 4212.

(f) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary.

(End of clause)

52.223-5 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (APR 1998)

(a) Executive Order 12856 of August 3, 1993, requires Federal facilities to comply with the provisions of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA)(42 U.S.C. 11001-11050) and the Pollution Prevention Act of 1990 (PPA)(42 U.S.C. 13101-13109).

(b) The Contractor shall provide all information needed by the Federal facility to comply with the emergency planning reporting requirements of Section 302 of EPCRA; the emergency notice requirements of Section 304 of EPCRA; the list of Material Safety Data Sheets required by Section 311 of EPCRA; the emergency and hazardous

chemical inventory forms of Section 312 of EPCRA; the toxic chemical release inventory of Section 313 of EPCRA, which includes the reduction and recycling information required by Section 6607 of PPA; and the toxic chemical reduction goals requirements of Section 3-302 of Executive Order 12856.

52.223-6 DRUG-FREE WORKPLACE (MAY 2001)

(a) Definitions. As used in this clause --

"Controlled substance" means a controlled substance in schedules I through V of section 202 of the Controlled Substances Act (21 U.S.C. 812) and as further defined in regulation at 21 CFR 1308.11 - 1308.15.

"Conviction" means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes.

"Criminal drug statute" means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession, or use of any controlled substance.

"Drug-free workplace" means the site(s) for the performance of work done by the Contractor in connection with a specific contract where employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

"Employee" means an employee of a Contractor directly engaged in the performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract performance.

"Individual" means an offeror/contractor that has no more than one employee including the offeror/contractor.

(b) The Contractor, if other than an individual, shall-- within 30 days after award (unless a longer period is agreed to in writing for contracts of 30 days or more performance duration), or as soon as possible for contracts of less than 30 days performance duration--

(1) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;

(2) Establish an ongoing drug-free awareness program to inform such employees about--

(i) The dangers of drug abuse in the workplace;

(ii) The Contractor's policy of maintaining a drug-free workplace;

(iii) Any available drug counseling, rehabilitation, and employee assistance programs; and

(iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(3) Provide all employees engaged in performance of the contract with a copy of the statement required by subparagraph (b)(1) of this clause;

(4) Notify such employees in writing in the statement required by subparagraph (b)(1) of this clause that, as a condition of continued employment on this contract, the employee will--

(i) Abide by the terms of the statement; and

(ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation

occurring in the workplace no later than 5 days after such conviction.

(5) Notify the Contracting Officer in writing within 10 days after receiving notice under subdivision (b)(4)(ii) of this clause, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee;

(6) Within 30 days after receiving notice under subdivision (b)(4)(ii) of this clause of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:

(i) Taking appropriate personnel action against such employee, up to and including termination; or

(ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency; and

(7) Make a good faith effort to maintain a drug-free workplace through implementation of subparagraphs (b)(1) through (b)(6) of this clause.

(c) The Contractor, if an individual, agrees by award of the contract or acceptance of a purchase order, not to engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance while performing this contract.

(d) In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraph (b) or (c) of this clause may, pursuant to FAR 23.506, render the Contractor subject to suspension of contract payments, termination of the contract for default, and suspension or debarment.

(End of clause)

52.223-14 TOXIC CHEMICAL RELEASE REPORTING (OCT 2000)

(a) Unless otherwise exempt, the Contractor, as owner or operator of a facility used in the performance of this contract, shall file by July 1 for the prior calendar year an annual Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023(a) and (g)), and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106). The Contractor shall file, for each facility subject to the Form R filing and reporting requirements, the annual Form R throughout the life of the contract.

(b) A Contractor owned or operated facility used in the performance of this contract is exempt from the requirement to file an annual Form R if--

(1) The facility does not manufacture, process, or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

(2) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

(3) The facility does not meet the reporting thresholds of toxic chemicals established under of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

(4) The facility does not fall within Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or

(5) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

(c) If the Contractor has certified to an exemption in accordance with one or more of the criteria in paragraph (b) of this clause, and after award of the contract circumstances change so that any of its owned or operated facilities used in the performance of this contract is no longer exempt--

(1) The Contractor shall notify the Contracting Officer; and

(2) The Contractor, as owner or operator of a facility used in the performance of this contract that is no longer exempt, shall (i) submit a Toxic Chemical Release Inventory Form (Form R) on or before July 1 for the prior calendar year during which the facility becomes eligible; and (ii) continue to file the annual Form R for the life of the contract for such facility.

(d) The Contracting Officer may terminate this contract or take other action as appropriate, if the Contractor fails to comply accurately and fully with the EPCRA and PPA toxic chemical release filing and reporting requirements.

(e) Except for acquisitions of commercial items, as defined in FAR Part 2, the Contractor shall--

(1) For competitive subcontracts expected to exceed \$100,000 (including all options), include a solicitation provision substantially the same as the provision at FAR 52.223-13, Certification of Toxic Chemical Release Reporting; and

(2) Include in any resultant subcontract exceeding \$100,000 (including all options), the substance of this clause, except this paragraph (e).

52.225-11 BUY AMERICAN ACT--BALANCE OF PAYMENTS PROGRAM--CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (FEB 2000)

(a) Definitions. As used in this clause--

Component means any article, material, or supply incorporated directly into construction materials.

Construction material means an article, material, or supply brought to the construction site by the Contractor or subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the end product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the end product.

Designated country means any of the following countries: Aruba, Austria, Bangladesh, Belgium, Benin, Bhutan, Botswana, Burkina Faso, Burundi, Canada, Cape Verde, Central African Republic, Chad, Comoros, Denmark.

Djibouti, Equatorial Guinea, Finland, France, Gambia, Germany, Greece, Guinea, Guinea-Bissau, Haiti, Hong Kong, Ireland, Israel, Italy, Japan.

Kiribati, Korea, Republic of, Lesotho, Liechtenstein, Luxembourg, Malawi, Maldives, Mali, Mozambique, Nepal, Netherlands, Niger, Norway, Portugal, Rwanda.

Sao Tome and Principe, Sierra Leone, Singapore, Somalia, Spain, Sweden, Switzerland, Tanzania U.R., Togo, Tuvalu, Uganda, United Kingdom, Vanuatu, Western Samoa, Yemen.

Designated country construction material means a construction material that--

- (1) Is wholly the growth, product, or manufacture of a designated country; or
- (2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a designated country into a new and different construction material distinct from the materials from which it was transformed.

Domestic construction material means--

- (1) An unmanufactured construction material mined or produced in the United States; or
- (2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

Foreign construction material means a construction material other than a domestic construction material.

North American Free Trade Agreement country means Canada or Mexico.

North American Free Trade Agreement country construction material means a construction material that--

- (1) Is wholly the growth, product, or manufacture of a North American Free Trade Agreement (NAFTA) country; or
- (2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a NAFTA country into a new and different construction material distinct from the materials from which it was transformed.

United States means the 50 States and the District of Columbia, U.S. territories and possessions, Puerto Rico, the Northern Mariana Islands, and any other place subject to U.S. jurisdiction, but does not include leased bases.

(b) Construction materials. (1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) and the Balance of Payments Program by providing a preference for domestic construction material. In addition, the Contracting Officer has determined that the Trade Agreements Act and the North American Free Trade Agreement (NAFTA) apply to this acquisition. Therefore, the Buy American Act and Balance of Payments Program restrictions are waived for designated country and NAFTA country construction materials.

(2) The Contractor shall use only domestic, designated country, or NAFTA country construction material in performing this contract, except as provided in paragraphs (b)(3) and (b)(4) of this clause.

(3) The requirement in paragraph (b)(2) of this clause does not apply to the construction materials or components listed by the Government as follows: None [Contracting Officer to list applicable excepted materials or indicate "none"]

(4) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(3) of this clause if the Government determines that--

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the restrictions of the Buy American Act is unreasonable when the cost of such material exceeds

the cost of foreign material by more than 6 percent. For determination of unreasonable cost under the Balance of Payments Program, the Contracting Officer will use a factor of 50 percent;

(ii) The application of the restriction of the Buy American Act or Balance of Payments Program to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act or Balance of Payments Program. (1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(4) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act or Balance of Payments Program applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(4)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act or Balance of Payments Program applies, use of foreign construction material is noncompliant with the Buy American Act or Balance of Payments Program.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

Construction material description	Unit of measure	Quantity	Price (dollars)
Item 1:			
Foreign construction material....			
Domestic construction material...			
Item 2:			
Foreign construction material....			
Domestic construction material...			

\1\ Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).
 List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.
 Include other applicable supporting information.

(End of clause)

52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (JUL 2000)

- (a) The Contractor shall not acquire, for use in the performance of this contract, any supplies or services originating from sources within, or that were located in or transported from or through, countries whose products are banned from importation into the United States under regulations of the Office of Foreign Assets Control, Department of the Treasury. Those countries are Cuba, Iran, Iraq, Libya, North Korea, Sudan, the territory of Afghanistan controlled by the Taliban, and Serbia (excluding the territory of Kosovo).
- (b) The Contractor shall not acquire for use in the performance of this contract any supplies or services from entities controlled by the government of Iraq.
- (c) The Contractor shall insert this clause, including this paragraph (c), in all subcontracts.

(End of clause)

52.227-1 AUTHORIZATION AND CONSENT (JUL 1995)

- (a) The Government authorizes and consents to all use and manufacture, in performing this contract or any subcontract at any tier, of any invention described in and covered by a United States patent (1) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract or (2) used in machinery, tools, or methods whose use necessarily results from compliance by the Contractor or a subcontractor with (i) specifications or written provisions forming a part of this contract or (ii) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clause, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted.
- (b) The Contractor agrees to include, and require inclusion of, this clause, suitably modified to identify the parties, in all subcontracts at any tier for supplies or services (including construction, architect-engineer services, and materials, supplies, models, samples, and design or testing services expected to exceed the simplified acquisition threshold (however, omission of this clause from any subcontract, including those at or below the simplified acquisition threshold, does not affect this authorization and consent.)

52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (AUG 1996)

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed under this contract, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(c) The Contractor agrees to include, and require inclusion of, this clause in all subcontracts at any tier for supplies or services (including construction and architect-engineer subcontracts and those for material, supplies, models, samples, or design or testing services) expected to exceed the simplified acquisition threshold at (FAR) 2.101. to exceed the dollar amount set forth in 13.000 of the Federal Acquisition Regulation (FAR).

(End of clause)

52.227-4 PATENT INDEMNITY--CONSTRUCTION CONTRACTS (APR 1984)

Except as otherwise provided, the Contractor agrees to indemnify the Government and its officers, agents, and employees against liability, including costs and expenses, for infringement upon any United States patent (except a patent issued upon an application that is now or may hereafter be withheld from issue pursuant to a Secrecy Order under 35 U.S.C. 181) arising out of performing this contract or out of the use or disposal by or for the account of the Government of supplies furnished or work performed under this contract.

52.228-2 ADDITIONAL BOND SECURITY (OCT 1997)

The Contractor shall promptly furnish additional security required to protect the Government and persons supplying labor or materials under this contract if--

(a) Any surety upon any bond, or issuing financial institution for other security, furnished with this contract becomes unacceptable to the Government.

(b) Any surety fails to furnish reports on its financial condition as required by the Government;

(c) The contract price is increased so that the penal sum of any bond becomes inadequate in the opinion of the Contracting Officer; or

(d) An irrevocable letter of credit (ILC) used as security will expire before the end of the period of required security. If the Contractor does not furnish an acceptable extension or replacement ILC, or other acceptable substitute, at least 30 days before an ILC's scheduled expiration, the Contracting officer has the right to immediately draw on the ILC.

52.228-11 PLEDGES OF ASSETS (FEB 1992)

(a) Offerors shall obtain from each person acting as an individual surety on a bid guarantee, a performance bond, or a payment bond--

(1) Pledge of assets; and

(2) Standard Form 28, Affidavit of Individual Surety.

(b) Pledges of assets from each person acting as an individual surety shall be in the form of--

(1) Evidence of an escrow account containing cash, certificates of deposit, commercial or Government securities, or other assets described in FAR 28.203-2 (except see 28.203-2(b)(2) with respect to Government securities held in book entry form) and/or;

(2) A recorded lien on real estate. The offeror will be required to provide--

(i) Evidence of title in the form of a certificate of title prepared by a title insurance company approved by the United States Department of Justice. This title evidence must show fee simple title vested in the surety along with any concurrent owners; whether any real estate taxes are due and payable; and any recorded encumbrances against the property, including the lien filed in favor of the Government as required by FAR 28.203-3(d);

(ii) Evidence of the amount due under any encumbrance shown in the evidence of title;

(iii) A copy of the current real estate tax assessment of the property or a current appraisal dated no earlier than 6 months prior to the date of the bond, prepared by a professional appraiser who certifies that the appraisal has been conducted in accordance with the generally accepted appraisal standards as reflected in the Uniform Standards of Professional Appraisal Practice, as promulgated by the Appraisal Foundation.

(End of clause)

52.229-3 FEDERAL, STATE, AND LOCAL TAXES (JAN 1991)

(a) "Contract date," as used in this clause, means the date set for bid opening or, if this is a negotiated contract or a modification, the effective date of this contract or modification.

"All applicable Federal, State, and local taxes and duties," as used in this clause, means all taxes and duties, in effect on the contract date, that the taxing authority is imposing and collecting on the transactions or property covered by this contract.

"After-imposed Federal tax," as used in this clause, means any new or increased Federal excise tax or duty, or tax that was exempted or excluded on the contract date but whose exemption was later revoked or reduced during the contract period, on the transactions or property covered by this contract that the Contractor is required to pay or bear as the result of legislative, judicial, or administrative action taking effect after the contract date. It does not include social security tax or other employment taxes.

"After-relieved Federal tax," as used in this clause, means any amount of Federal excise tax or duty, except social security or other employment taxes, that would otherwise have been payable on the transactions or property covered by this contract, but which the Contractor is not required to pay or bear, or for which the Contractor obtains a refund or drawback, as the result of legislative, judicial, or administrative action taking effect after the contract date.

(b) The contract price includes all applicable Federal, State, and local taxes and duties.

(c) The contract price shall be increased by the amount of any after-imposed Federal tax, provided the Contractor warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price, as a contingency reserve or otherwise.

(d) The contract price shall be decreased by the amount of any after-relieved Federal tax.

(e) The contract price shall be decreased by the amount of any Federal excise tax or duty, except social security or other employment taxes, that the Contractor is required to pay or bear, or does not obtain a refund of, through the

Contractor's fault, negligence, or failure to follow instructions of the Contracting Officer.

(f) No adjustment shall be made in the contract price under this clause unless the amount of the adjustment exceeds \$250.

(g) The Contractor shall promptly notify the Contracting Officer of all matters relating to any Federal excise tax or duty that reasonably may be expected to result in either an increase or decrease in the contract price and shall take appropriate action as the Contracting Officer directs.

(h) The Government shall, without liability, furnish evidence appropriate to establish exemption from any Federal, State, or local tax when the Contractor requests such evidence and a reasonable basis exists to sustain the exemption.

(End of clause)

52.229-5 TAXES--CONTRACTS PERFORMED IN U.S. POSSESSIONS OR PUERTO RICO (APR 1984)

The term "local taxes," as used in the Federal, State, and local taxes clause of this contract, includes taxes imposed by a possession of the United States or by Puerto Rico.

(End of clause)

52.232-5 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (MAY 1997)

(a) Payment of price. The Government shall pay the Contractor the contract price as provided in this contract.

(b) Progress payments. The Government shall make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer.

(1) The Contractor's request for progress payments shall include the following substantiation:

(i) An itemization of the amounts requested, related to the various elements of work required by the contract covered by the payment requested.

(ii) A listing of the amount included for work performed by each subcontractor under the contract.

(iii) A listing of the total amount of each subcontract under the contract.

(iv) A listing of the amounts previously paid to each such subcontractor under the contract.

(v) Additional supporting data in a form and detail required by the Contracting Officer.

(2) In the preparation of estimates, the Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site also may be taken into consideration if--

(i) Consideration is specifically authorized by this contract; and

(ii) The Contractor furnishes satisfactory evidence that it has acquired title to such material and that the material will be used to perform this contract.

(c) Contractor certification. Along with each request for progress payments, the Contractor shall furnish the following certification, or payment shall not be made: (However, if the Contractor elects to delete paragraph (c)(4) from the certification, the certification is still acceptable.)

I hereby certify, to the best of my knowledge and belief, that--

- (1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;
- (2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of chapter 39 of Title 31, United States Code;
- (3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract; and
- (4) This certification is not to be construed as final acceptance of a subcontractor's performance.

 (Name)

 (Title)

 (Date)

(d) Refund of unearned amounts. If the Contractor, after making a certified request for progress payments, discovers that a portion or all of such request constitutes a payment for performance by the Contractor that fails to conform to the specifications, terms, and conditions of this contract (hereinafter referred to as the "unearned amount"), the Contractor shall--

- (1) Notify the Contracting Officer of such performance deficiency; and
- (2) Be obligated to pay the Government an amount (computed by the Contracting Officer in the manner provided in paragraph (j) of this clause) equal to interest on the unearned amount from the 8th day after the date of receipt of the unearned amount until--
 - (i) The date the Contractor notifies the Contracting Officer that the performance deficiency has been corrected; or
 - (ii) The date the Contractor reduces the amount of any subsequent certified request for progress payments by an amount equal to the unearned amount.

(e) Retainage. If the Contracting Officer finds that satisfactory progress was achieved during any period for which a progress payment is to be made, the Contracting Officer shall authorize payment to be made in full. However, if satisfactory progress has not been made, the Contracting Officer may retain a maximum of 10 percent of the amount of the payment until satisfactory progress is achieved. When the work is substantially complete, the Contracting Officer may retain from previously withheld funds and future progress payments that amount the Contracting Officer considers adequate for protection of the Government and shall release to the Contractor all the remaining withheld funds. Also, on completion and acceptance of each separate building, public work, or other division of the contract, for which the price is stated separately in the contract, payment shall be made for the completed work without retention of a percentage.

(f) Title, liability, and reservation of rights. All material and work covered by progress payments made shall, at the time of payment, become the sole property of the Government, but this shall not be construed as--

- (1) Relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or

(2) Waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(g) Reimbursement for bond premiums. In making these progress payments, the Government shall, upon request, reimburse the Contractor for the amount of premiums paid for performance and payment bonds (including coinsurance and reinsurance agreements, when applicable) after the Contractor has furnished evidence of full payment to the surety. The retainage provisions in paragraph (e) of this clause shall not apply to that portion of progress payments attributable to bond premiums.

(h) Final payment. The Government shall pay the amount due the Contractor under this contract after--

(1) Completion and acceptance of all work;

(2) Presentation of a properly executed voucher; and

(3) Presentation of release of all claims against the Government arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned under the Assignment of Claims Act of 1940 (31 U.S.C. 3727 and 41 U.S.C. 15).

(i) Limitation because of undefinitized work. Notwithstanding any provision of this contract, progress payments shall not exceed 80 percent on work accomplished on undefinitized contract actions. A "contract action" is any action resulting in a contract, as defined in FAR Subpart 2.1, including contract modifications for additional supplies or services, but not including contract modifications that are within the scope and under the terms of the contract, such as contract modifications issued pursuant to the Changes clause, or funding and other administrative changes.

(j) Interest computation on unearned amounts. In accordance with 31 U.S.C. 3903(c)(1), the amount payable under subparagraph (d)(2) of this clause shall be--

(1) Computed at the rate of average bond equivalent rates of 91-day Treasury bills auctioned at the most recent auction of such bills prior to the date the Contractor receives the unearned amount; and

(2) Deducted from the next available payment to the Contractor.

52.232-17 INTEREST (JUNE 1996)

(a) Except as otherwise provided in this contract under a Price Reduction for Defective Cost or Pricing Data clause or a Cost Accounting Standards clause, all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code (26 U.S.C. 1481)) shall bear simple interest from the date due until paid unless paid within 30 days of becoming due. The interest rate shall be the interest rate established by the Secretary of the Treasury as provided in Section 12 of the Contract Disputes Act of 1978 (Public Law 95-563), which is applicable to the period in which the amount becomes due, as provided in paragraph (b) of this clause, and then at the rate applicable for each six-month period as fixed by the Secretary until the amount is paid. reproduce, prepare derivative works, distribute copies to the public, and (b) Amounts shall be due at the earliest of the following dates:

(1) The date fixed under this contract.

(2) The date of the first written demand for payment consistent with this contract, including any demand resulting from a default termination.

(3) The date the Government transmits to the Contractor a proposed supplemental agreement to confirm completed negotiations establishing the amount of debt.

(4) If this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or a negotiated pricing agreement not confirmed by contract modification.

(c) The interest charge made under this clause may be reduced under the procedures prescribed in 32.614-2 of the Federal Acquisition Regulation in effect on the date of this contract.

52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986)

(a) The Contractor, under the Assignment of Claims Act, as amended, 31 U.S.C. 3727, 41 U.S.C. 15 (hereafter referred to as "the Act"), may assign its rights to be paid amounts due or to become due as a result of the performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency. The assignee under such an assignment may thereafter further assign or reassign its right under the original assignment to any type of financing institution described in the preceding sentence.

(b) Any assignment or reassignment authorized under the Act and this clause shall cover all unpaid amounts payable under this contract, and shall not be made to more than one party, except that an assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in the financing of this contract.

(c) The Contractor shall not furnish or disclose to any assignee under this contract any classified document (including this contract) or information related to work under this contract until the Contracting Officer authorizes such action in writing.

52.232-27 PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (MAY 2001)

Notwithstanding any other payment terms in this contract, the Government will make invoice payments and contract financing payments under the terms and conditions specified in this clause. Payment shall be considered as being made on the day a check is dated or the date of an electronic funds transfer. Definitions of pertinent terms are set forth in sections 2.101 and 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see subparagraph (a)(3) concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments. (1) Types of invoice payments. For purposes of this clause, there are several types of invoice payments that may occur under this contract, as follows:

(i) Progress payments, if provided for elsewhere in this contract, based on Contracting Officer approval of the estimated amount and value of work or services performed, including payments for reaching milestones in any project:

(A) The due date for making such payments shall be 14 days after receipt of the payment request by the designated billing office. If the designated billing office fails to annotate the payment request with the actual date of receipt at the time of receipt, the payment due date shall be the 14th day after the date of the Contractor's payment request, provided a proper payment request is received and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(B) The due date for payment of any amounts retained by the Contracting Officer in accordance with the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts, shall be as specified in the contract or, if not specified, 30 days after approval for release to the Contractor by the Contracting Officer.

(ii) Final payments based on completion and acceptance of all work and presentation of release of all claims against the Government arising by virtue of the contract, and payments for partial deliveries that have been accepted by the

Government (e.g., each separate building, public work, or other division of the contract for which the price is stated separately in the contract):

(A) The due date for making such payments shall be either the 30th day after receipt by the designated billing office of a proper invoice from the Contractor, or the 30th day after Government acceptance of the work or services completed by the Contractor, whichever is later. If the designated billing office fails to annotate the invoice with the date of actual receipt at the time of receipt, the invoice payment due date shall be the 30th day after the date of the Contractor's invoice, provided a proper invoice is received and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(B) On a final invoice where the payment amount is subject to contract settlement actions (e.g., release of claims), acceptance shall be deemed to have occurred on the effective date of the contract settlement.

(2) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in subdivisions (a)(2)(i) through (a)(2)(ix) of this clause. If the invoice does not comply with these requirements, it shall be returned within 7 days after the date the designated billing office received the invoice, with a statement of the reasons why it is not a proper invoice. Untimely notification will be taken into account in computing any interest penalty owed the Contractor in the manner described in subparagraph (a)(4) of this clause.

(i) Name and address of the Contractor.

(ii) Invoice date. (The Contractor is encouraged to date invoices as close as possible to the date of mailing or transmission.)

(iii) Contract number or other authorization for work or services performed (including order number and contract line item number).

(iv) Description of work or services performed.

(v) Delivery and payment terms (e.g., prompt payment discount terms).

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to be notified in the event of a defective invoice.

(viii) For payments described in subdivision (a)(1)(i) of this clause, substantiation of the amounts requested and certification in accordance with the requirements of the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts.

(ix) Any other information or documentation required by the contract.

(x) While not required, the Contractor is strongly encouraged to assign an identification number to each invoice.

(3) Interest penalty. An interest penalty shall be paid automatically by the designated payment office, without request from the Contractor, if payment is not made by the due date and the conditions listed in subdivisions (a)(3)(i) through (a)(3)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day without incurring a late payment interest penalty.

(i) A proper invoice was received by the designated billing office.

(ii) A receiving report or other Government documentation authorizing payment was processed and there was no

disagreement over quantity, quality, Contractor compliance with any contract term or condition, or requested progress payment amount.

(iii) In the case of a final invoice for any balance of funds due the Contractor for work or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(4) Computing penalty amount. The interest penalty shall be at the rate established by the Secretary of the Treasury under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) that is in effect on the day after the due date, except where the interest penalty is prescribed by other governmental authority (e.g., tariffs). This rate is referred to as the "Renegotiation Board Interest Rate," and it is published in the Federal Register semiannually on or about January 1 and July 1. The interest penalty shall accrue daily on the invoice principal payment amount approved by the Government until the payment date of such approved principal amount; and will be compounded in 30-day increments inclusive from the first day after the due date through the payment date. That is, interest accrued at the end of any 30-day period will be added to the approved invoice principal payment amount and will be subject to interest penalties if not paid in the succeeding 30-day period. If the designated billing office failed to notify the Contractor of a defective invoice within the periods prescribed in subparagraph (a)(2) of this clause, the due date on the corrected invoice will be adjusted by subtracting from such date the number of days taken beyond the prescribed notification of defects period. Any interest penalty owed the Contractor will be based on this adjusted due date. Adjustments will be made by the designated payment office for errors in calculating interest penalties.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor for payments described in subdivision (a)(1)(ii) of this clause, Government acceptance or approval shall be deemed to have occurred constructively on the 7th day after the Contractor has completed the work or services in accordance with the terms and conditions of the contract. In the event that actual acceptance or approval occurs within the constructive acceptance or approval period, the determination of an interest penalty shall be based on the actual date of acceptance or approval. Constructive acceptance or constructive approval requirements do not apply if there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. These requirements also do not compel Government officials to accept work or services, approve Contractor estimates, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The following periods of time will not be included in the determination of an interest penalty:

(A) The period taken to notify the Contractor of defects in invoices submitted to the Government, but this may not exceed 7 days.

(B) The period between the defects notice and resubmission of the corrected invoice by the Contractor.

(C) For incorrect electronic funds transfer (EFT) information, in accordance with the EFT clause of this contract.

(iii) Interest penalties will not continue to accrue after the filing of a claim for such penalties under the clause at 52.233-1, Disputes, or for more than 1 year. Interest penalties of less than \$1 need not be paid.

(iv) Interest penalties are not required on payment delays due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the contract. Claims involving disputes, and any interest that may be payable, will be resolved in accordance with the clause at 52.233-1, Disputes.

(5) Prompt payment discounts. An interest penalty also shall be paid automatically by the designated payment office, without request from the Contractor, if a discount for prompt payment is taken improperly. The interest penalty will be calculated on the amount of discount taken for the period beginning with the first day after the end of the discount period through the date when the Contractor is paid.

(6) Additional interest penalty. (i) If this contract was awarded on or after October 1, 1989, a penalty amount, calculated in accordance with subdivision (a)(6)(iii) of this clause, shall be paid in addition to the interest penalty amount if the Contractor--

(A) Is owed an interest penalty of \$1 or more;

(B) Is not paid the interest penalty within 10 days after the date the invoice amount is paid; and

(C) Makes a written demand to the designated payment office for additional penalty payment, in accordance with subdivision (a)(6)(ii) of this clause, postmarked not later than 40 days after the date the invoice amount is paid.

(ii)(A) Contractors shall support written demands for additional penalty payments with the following data. No additional data shall be required. Contractors shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) Demands must be postmarked on or before the 40th day after payment was made, except that--

(1) If the postmark is illegible or nonexistent, the demand must have been received and annotated with the date of receipt by the designated payment office on or before the 40th day after payment was made; or

(2) If the postmark is illegible or nonexistent and the designated payment office fails to make the required annotation, the demand's validity will be determined by the date the Contractor has placed on the demand; provided such date is no later than the 40th day after payment was made.

(iii)(A) The additional penalty shall be equal to 100 percent of any original late payment interest penalty, except--

(1) The additional penalty shall not exceed \$5,000;

(2) The additional penalty shall never be less than \$25; and

(3) No additional penalty is owed if the amount of the underlying interest penalty is less than \$1.

(B) If the interest penalty ceases to accrue in accordance with the limits stated in subdivision (a)(4)(iii) of this clause, the amount of the additional penalty shall be calculated on the amount of interest penalty that would have accrued in the absence of these limits, subject to the overall limits on the additional penalty specified in subdivision (a)(6)(iii)(A) of this clause.

(C) For determining the maximum and minimum additional penalties, the test shall be the interest penalty due on each separate payment made for each separate contract. The maximum and minimum additional penalty shall not be based upon individual invoices unless the invoices are paid separately. Where payments are consolidated for disbursing purposes, the maximum and minimum additional penalty determination shall be made separately for each contract therein.

(D) The additional penalty does not apply to payments regulated by other Government regulations (e.g., payments under utility contracts subject to tariffs and regulation).

(b) Contract financing payments. (1) Due dates for recurring financing payments. If this contract provides for contract financing, requests for payment shall be submitted to the designated billing office as specified in this contract or as directed by the Contracting Officer. Contract financing payments shall be made on the [insert day as prescribed by Agency head; if not prescribed, insert 30th day] day after receipt of a proper contract financing request by the designated billing office. In the event that an audit or other review of a specific financing request is required to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the due date specified.

(2) Due dates for other contract financing. For advance payments, loans, or other arrangements that do not involve recurring submissions of contract financing requests, payment shall be made in accordance with the corresponding contract terms or as directed by the Contracting Officer.

(3) Interest penalty not applicable. Contract financing payments shall not be assessed an interest penalty for payment delays.

(c) Subcontract clause requirements. The Contractor shall include in each subcontract for property or services (including a material supplier) for the purpose of performing this contract the following:

(1) Prompt payment for subcontractors. A payment clause that obligates the Contractor to pay the subcontractor for satisfactory performance under its subcontract not later than 7 days from receipt of payment out of such amounts as are paid to the Contractor under this contract.

(2) Interest for subcontractors. An interest penalty clause that obligates the Contractor to pay to the subcontractor an interest penalty for each payment not made in accordance with the payment clause--

(i) For the period beginning on the day after the required payment date and ending on the date on which payment of the amount due is made; and

(ii) Computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(3) Subcontractor clause flowdown. A clause requiring each subcontractor to include a payment clause and an interest penalty clause conforming to the standards set forth in subparagraphs (c)(1) and (c)(2) of this clause in each of its subcontracts, and to require each of its subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.

(d) Subcontract clause interpretation. The clauses required by paragraph (c) of this clause shall not be construed to impair the right of the Contractor or a subcontractor at any tier to negotiate, and to include in their subcontract, provisions that--

(1) Retainage permitted. Permit the Contractor or a subcontractor to retain (without cause) a specified percentage of each progress payment otherwise due to a subcontractor for satisfactory performance under the subcontract without incurring any obligation to pay a late payment interest penalty, in accordance with terms and conditions agreed to by the parties to the subcontract, giving such recognition as the parties deem appropriate to the ability of a subcontractor to furnish a performance bond and a payment bond;

(2) Withholding permitted. Permit the Contractor or subcontractor to make a determination that part or all of the subcontractor's request for payment may be withheld in accordance with the subcontract agreement; and

(3) Withholding requirements. Permit such withholding without incurring any obligation to pay a late payment penalty if--

(i) A notice conforming to the standards of paragraph (g) of this clause previously has been furnished to the subcontractor; and

(ii) A copy of any notice issued by a Contractor pursuant to subdivision (d)(3)(i) of this clause has been furnished to the Contracting Officer.

(e) Subcontractor withholding procedures. If a Contractor, after making a request for payment to the Government but before making a payment to a subcontractor for the subcontractor's performance covered by the payment request, discovers that all or a portion of the payment otherwise due such subcontractor is subject to withholding from the subcontractor in accordance with the subcontract agreement, then the Contractor shall--

(1) Subcontractor notice. Furnish to the subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon ascertaining the cause giving rise to a withholding, but prior to the due date for subcontractor payment;

(2) Contracting Officer notice. Furnish to the Contracting Officer, as soon as practicable, a copy of the notice furnished to the subcontractor pursuant to subparagraph (e)(1) of this clause;

(3) Subcontractor progress payment reduction. Reduce the subcontractor's progress payment by an amount not to exceed the amount specified in the notice of withholding furnished under subparagraph (e)(1) of this clause;

(4) Subsequent subcontractor payment. Pay the subcontractor as soon as practicable after the correction of the identified subcontract performance deficiency, and--

(i) Make such payment within--

(A) Seven days after correction of the identified subcontract performance deficiency (unless the funds therefor must be recovered from the Government because of a reduction under subdivision (e)(5)(i) of this clause; or

(B) Seven days after the Contractor recovers such funds from the Government; or

(ii) Incur an obligation to pay a late payment interest penalty computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty;

(5) Notice to Contracting Officer. Notify the Contracting Officer upon--

(i) Reduction of the amount of any subsequent certified application for payment; or

(ii) Payment to the subcontractor of any withheld amounts of a progress payment, specifying--

(A) The amounts withheld under subparagraph (e)(1) of this clause; and

(B) The dates that such withholding began and ended; and

(6) Interest to Government. Be obligated to pay to the Government an amount equal to interest on the withheld payments (computed in the manner provided in 31 U.S.C. 3903(c)(1)), from the 8th day after receipt of the withheld amounts from the Government until--

(i) The day the identified subcontractor performance deficiency is corrected; or

(ii) The date that any subsequent payment is reduced under subdivision (e)(5)(i) of this clause.

(f) Third-party deficiency reports. (1) Withholding from subcontractor. If a Contractor, after making payment to a first-tier subcontractor, receives from a supplier or subcontractor of the first-tier subcontractor (hereafter referred to as a "second-tier subcontractor") a written notice in accordance with section 2 of the Act of August 24, 1935 (40 U.S.C. 270b, Miller Act), asserting a deficiency in such first-tier subcontractor's performance under the contract for which the Contractor may be ultimately liable, and the Contractor determines that all or a portion of future payments otherwise due such first-tier subcontractor is subject to withholding in accordance with the subcontract agreement, the Contractor may, without incurring an obligation to pay an interest penalty under subparagraph (e)(6) of this clause--

(i) Furnish to the first-tier subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon making such determination; and

(ii) Withhold from the first-tier subcontractor's next available progress payment or payments an amount not to

exceed the amount specified in the notice of withholding furnished under subdivision (f)(1)(i) of this clause.

(2) Subsequent payment or interest charge. As soon as practicable, but not later than 7 days after receipt of satisfactory written notification that the identified subcontract performance deficiency has been corrected, the Contractor shall--

(i) Pay the amount withheld under subdivision (f)(1)(ii) of this clause to such first-tier subcontractor; or

(ii) Incur an obligation to pay a late payment interest penalty to such first-tier subcontractor computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(g) Written notice of subcontractor withholding. A written notice of any withholding shall be issued to a subcontractor (with a copy to the Contracting Officer of any such notice issued by the Contractor), specifying--

(1) The amount to be withheld;

(2) The specific causes for the withholding under the terms of the subcontract; and

(3) The remedial actions to be taken by the subcontractor in order to receive payment of the amounts withheld.

(h) Subcontractor payment entitlement. The Contractor may not request payment from the Government of any amount withheld or retained in accordance with paragraph (d) of this clause until such time as the Contractor has determined and certified to the Contracting Officer that the subcontractor is entitled to the payment of such amount.

(i) Prime-subcontractor disputes. A dispute between the Contractor and subcontractor relating to the amount or entitlement of a subcontractor to a payment or a late payment interest penalty under a clause included in the subcontract pursuant to paragraph (c) of this clause does not constitute a dispute to which the United States is a party. The United States may not be interpleaded in any judicial or administrative proceeding involving such a dispute.

(j) Preservation of prime-subcontractor rights. Except as provided in paragraph (i) of this clause, this clause shall not limit or impair any contractual, administrative, or judicial remedies otherwise available to the Contractor or a subcontractor in the event of a dispute involving late payment or nonpayment by the Contractor or deficient subcontract performance or nonperformance by a subcontractor.

(k) Non-recourse for prime contractor interest penalty. The Contractor's obligation to pay an interest penalty to a subcontractor pursuant to the clauses included in a subcontract under paragraph (c) of this clause shall not be construed to be an obligation of the United States for such interest penalty. A cost-reimbursement claim may not include any amount for reimbursement of such interest penalty.

52.232-29 Terms for Financing of Purchases of Commercial Items. (OCT 1995)

(a) Contractor entitlement to financing payments. The Contractor may request, and the Government shall pay, a contract financing payment as specified elsewhere in this contract when: the payment requested is properly due in accordance with this contract; the supplies deliverable or services due under the contract will be delivered or performed in accordance with the contract; and there has been no impairment or diminution of the Government's security under this contract.

(b) Special terms regarding termination for cause. If this contract is terminated for cause, the Contractor shall, on demand, repay to the Government the amount of unliquidated contract financing payments. The Government shall be liable for no payment except as provided by the Termination for Cause paragraph of the clause at 52.212-4, Contract Terms and Conditions--Commercial Items.

(c) Security for Government financing. In the event the Contractor fails to provide adequate security, as required in this contract, no financing payment shall be made under this contract. Upon receipt of adequate security, financing payments shall be made, including all previous payments to which the Contractor is entitled, in accordance with the terms of the provisions for contract financing. If at any time the Contracting Officer determines that the security provided by the Contractor is insufficient, the Contractor shall promptly provide such additional security as the Contracting Officer determines necessary. In the event the Contractor fails to provide such additional security, the Contracting Officer may collect or liquidate such security that has been provided and suspend further payments to the Contractor; and the Contractor shall repay to the Government the amount of unliquidated financing payments as the Contracting Officer at his sole discretion deems repayable.

(d) Reservation of rights.

(1) No payment or other action by the Government under this clause shall (i) excuse the Contractor from performance of obligations under this contract, or (ii) constitute a waiver of any of the rights or remedies of the parties under the contract.

(2) The Government's rights and remedies under this clause (i) shall not be exclusive, but rather shall be in addition to any other rights and remedies provided by law or this contract; and (ii) shall not be affected by delayed, partial, or omitted exercise of any right, remedy, power, or privilege, nor shall such exercise or any single exercise preclude or impair any further exercise under this clause or the exercise of any other right, power, or privilege of the Government.

(e) Content of Contractor's request for financing payment. The Contractor's request for financing payment shall contain the following:

(1) The name and address of the Contractor;

(2) The date of the request for financing payment;

(3) The contract number and/or other identifier of the contract or order under which the request is made; and

(4) An appropriately itemized and totaled statement of the financing payments requested and such other information as is necessary for computation of the payment, prepared in accordance with the direction of the Contracting Officer.

(f) Limitation on frequency of financing payments. Contractor financing payments shall be provided no more frequently than monthly. -

(g) In the event of any conflict between the terms proposed by the offeror in response to an invitation to propose financing terms (52.232-31) and the terms in this clause, the terms of this clause shall govern.

52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—CENTRAL CONTRACTOR REGISTRATION (MAY 1999)

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term "EFT" refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Contractor EFT arrangements. If the Contractor has identified multiple payment receiving points (i.e., more than one remittance address and/or EFT information set) in the CCR database, and the Contractor has not notified the Government of the payment receiving point applicable to this contract, the Government shall make payment to the first payment receiving point (EFT information set or remittance address as applicable) listed in the CCR database.

(f) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

- (i) Making a correct payment;
- (ii) Paying any prompt payment penalty due; and
- (iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

- (i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or
- (ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(g) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(h) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register in the CCR database and shall be paid by EFT in accordance with the terms of this clause. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(i) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(j) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

(End of Clause)

52.233-1 Disputes. (DEC 1998)

(a) This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613).

(b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved under this clause.

(c) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. A claim arising under a contract, unlike a claim relating to that contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. However, a written demand or written assertion by the Contractor seeking the payment of money exceeding \$100,000 is not a claim under the Act until certified as required by subparagraph (d)(2) of this clause. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under the Act. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(d)(1) A claim by the Contractor shall be made in writing and, unless otherwise stated in this contract, submitted within 6 years after accrual of the claim to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be subject to a written decision by the Contracting Officer.

(2)(i) The contractors shall provide the certification specified in subparagraph (d)(2)(iii) of this clause when submitting any claim -

(A) Exceeding \$100,000; or

(B) Regardless of the amount claimed, when using -

(1) Arbitration conducted pursuant to 5 U.S.C. 575-580; or

(2) Any other alternative means of dispute resolution (ADR) technique that the agency elects to handle in accordance with the Administrative Dispute Resolution Act (ADRA).

(ii) The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim.

(iii) The certification shall state as follows: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable; and that I am duly authorized to certify the claim on behalf of the Contractor.

(3) The certification may be executed by any person duly authorized to bind the Contractor with respect to the claim.

(e) For Contractor claims of \$100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over \$100,000, the

Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.

(f) The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in the Act.

(g) If the claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use alternative dispute resolution (ADR). If the Contractor refuses an offer for ADR, the Contractor shall inform the Contracting Officer, in writing, of the Contractor's specific reasons for rejecting the request.

(h) The Government shall pay interest on the amount found due and unpaid from (1) the date the Contracting Officer receives the claim (certified, if required); or (2) the date that payment otherwise would be due, if that date is later, until the date of payment. With regard to claims having defective certifications, as defined in (FAR) 48 CFR 33.201, interest shall be paid from the date that the Contracting Officer initially receives the claim. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

(i) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the Contracting Officer.

(End of clause)

52.233-3 PROTEST AFTER AWARD (AUG. 1996)

(a) Upon receipt of a notice of protest (as defined in FAR 33.101) or a determination that a protest is likely (see FAR 33.102(d)), the Contracting Officer may, by written order to the Contractor, direct the Contractor to stop performance of the work called for by this contract. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Upon receipt of the final decision in the protest, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled either before or after a final decision in the protest, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to an adjustment within 30 days after the end of the period of work stoppage; provided, that if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon a proposal at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(e) The Government's rights to terminate this contract at any time are not affected by action taken under this clause.

(f) If, as the result of the Contractor's intentional or negligent misstatement, misrepresentation, or miscertification, a protest related to this contract is sustained, and the Government pays costs, as provided in FAR 33.102(b)(2) or 33.104(h)(1), the Government may require the Contractor to reimburse the Government the amount of such costs. In addition to any other remedy available, and pursuant to the requirements of Subpart 32.6, the Government may collect this debt by offsetting the amount against any payment due the Contractor under any contract between the Contractor and the Government.

52.236-2 DIFFERING SITE CONDITIONS (APR 1984)

As prescribed in 36.502, insert the following clause in solicitations and contracts when a fixed-price construction contract or a fixed-price dismantling, demolition, or removal of improvements contract is contemplated and the contract amount is expected to exceed the small purchase limitation. The Contracting Officer may insert the clause in solicitations and contracts when a fixed-price construction or a fixed-price contract for dismantling, demolition, or removal of improvements is contemplated and the contract amount is expected to be within the small purchase limitation.

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of

(1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or

(2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

52.236-3 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to

(1) conditions bearing upon transportation, disposal, handling, and storage of materials;

(2) the availability of labor, water, electric power, and roads;

(3) uncertainties of weather, river stages, tides, or similar physical conditions at the site;

(4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the

character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.

(b) The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Government. Nor does the Government assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

52.236-5 MATERIAL AND WORKMANSHIP (APR 1984)

(a) All equipment, material, and articles incorporated into the work covered by this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. When directed to do so, the Contractor shall submit samples for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(c) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may require, in writing, that the Contractor remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

52.236-6 SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)

At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the worksite a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

52.236-8 OTHER CONTRACTS (APR 1984)

The Government may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with Government employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by Government employees.

52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984)

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(b) The Contractor shall protect from damage all existing improvements and utilities

(1) at or near the work site, and

(2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

52.236-10 OPERATIONS AND STORAGE AREAS (APR 1984)

(a) The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.

(b) Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.

(c) The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

52.236-11 USE AND POSSESSION PRIOR TO COMPLETION (APR 1984)

(a) The Government shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list

of items of work remaining to be performed or corrected on those portions of the work that the Government intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The Government's possession or use shall not be deemed an acceptance of any work under the contract.

(b) While the Government has such possession or use, the Contractor shall be relieved of the responsibility for the loss of or damage to the work resulting from the Government's possession or use, notwithstanding the terms of the clause in this contract entitled "Permits and Responsibilities." If prior possession or use by the Government delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

52.236-12 CLEANING UP (APR 1984)

The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, the Contractor shall remove from the work and premises any rubbish, tools, scaffolding, equipment, and materials that are not the property of the Government. Upon completing the work, the Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer.

52.236-13 ACCIDENT PREVENTION (NOV 1991)

(a) The Contractor shall provide and maintain work environments and procedures which will

(1) safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;

(2) avoid interruptions of Government operations and delays in project completion dates; and

(3) control costs in the performance of this contract.

(b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall-

(1) Provide appropriate safety barricades, signs, and signal lights;

(2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and

(3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the purposes are taken.

(c) If this contract is for construction or dismantling, demolition or removal of improvements with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation.

(d) Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any condition which poses a serious or imminent danger to the health or safety of the public or Government personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

(e) The Contractor shall insert this clause, including this paragraph (e), with appropriate changes in the designation of the parties, in subcontracts.

52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments until the Contractor submits the required schedule.

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

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

52.236-17 LAYOUT OF WORK (APR 1984)

The Contractor shall lay out its work from Government established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.

52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated",

"prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by," or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor.

52.236-26 PRECONSTRUCTION CONFERENCE (FEB 1995)

If the Contracting Officer decides to conduct a preconstruction conference, the successful offeror will be notified and will be required to attend. The Contracting Officer's notification will include specific details regarding the date, time, and location of the conference, any need for attendance by subcontractors, and information regarding the items to be discussed.

52.242-13 Bankruptcy (JUL 1995)

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the Contracting Officer responsible for administering the contract. This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of Government contract numbers and contracting offices for all Government contracts against which final payment has not been made. This obligation remains in effect until final

payment under this contract.

(End of clause)

52.242-14 SUSPENSION OF WORK (APR 1984)

(a) The Contracting Officer may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the Government.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract. (c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

52.243-4 CHANGES (AUG 1987)

(a) The Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes--

- (1) In the specifications (including drawings and designs);
- (2) In the method or manner of performance of the work;
- (3) In the Government-furnished facilities, equipment, materials, services, or site; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating

- (1) the date, circumstances, and source of the order and
- (2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the Contractor gives written notice as required. In the case

of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after

(1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Contracting Officer a written statement describing the general nature and amount of the proposal, unless this period is extended by the Government. The statement of proposal for adjustment may be included in the notice under paragraph (b) above.

(f) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

52.246-12 INSPECTION OF CONSTRUCTION (AUG 1996)

(a) Definition. "Work" includes, but is not limited to, materials, workmanship, and manufacture and fabrication of components.

(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the Government. All work shall be conducted under the general direction of the Contracting Officer and is subject to Government inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

(c) Government inspections and tests are for the sole benefit of the Government and do not--

(1) Relieve the Contractor of responsibility for providing adequate quality control measures;

(2) Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;

(3) Constitute or imply acceptance; or

(4) Affect the continuing rights of the Government after acceptance of the completed work under paragraph (i) of this section.

(d) The presence or absence of a Government inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Contracting Officer's written authorization.

(e) The Contractor shall promptly furnish, at no increase in contract price, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The Government may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The Government shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

(f) The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(g) If the Contractor does not promptly replace or correct rejected work, the Government may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor or (2) terminate for default the Contractor's right to proceed.

(h) If, before acceptance of the entire work, the Government decides to examine already completed work by removing it or tearing it out, the Contractor, on request, shall promptly furnish all necessary facilities, labor, and material. If the work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray the expenses of the examination and of satisfactory reconstruction. However, if the work is found to meet contract requirements, the Contracting Officer shall make an equitable adjustment for the additional services involved in the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

(i) Unless otherwise specified in the contract, the Government shall accept, as promptly as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the Government's rights under any warranty or guarantee.

52.246-21 WARRANTY OF CONSTRUCTION (MAR 1994)

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (i) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

(b) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

(c) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of--

- (1) The Contractor's failure to conform to contract requirements; or
- (2) Any defect of equipment, material, workmanship, or design furnished.

(d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(e) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

(f) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(g) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

- (1) Obtain all warranties that would be given in normal commercial practice;
- (2) Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and
- (3) Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

(h) In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

(i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

(j) This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

(End of clause)

52.248-3 VALUE ENGINEERING--CONSTRUCTION (FEB 2000)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VECP's, in accordance with paragraph (f) below.

(b) Definitions. "Collateral costs," as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VECP.

"Instant contract savings," as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VECP, minus allowable Contractor's development and implementation costs, including subcontractors' development and implementation costs (see paragraph (h) below).

"Value engineering change proposal (VECP)" means a proposal that--

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the contract price or estimated cost without impairing essential functions or characteristics; provided, that it does not involve a change--

(i) In deliverable end item quantities only; or

(ii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) A separate, detailed cost estimate for

(i) the affected portions of the existing contract requirement and

(ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

(4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(5) A prediction of any effects the proposed change would have on collateral costs to the agency.

(6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Resident Engineer at the worksite, with a copy to the Contracting Officer.

(e) Government action.

(1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(f) Sharing.

(1) Rates. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by

(i) 45 percent for fixed-price contracts or

(ii) 75 percent for cost-reimbursement contracts.

(2) Payment. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to--

- (i) Accept the VECP;
 - (ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and
 - (iii) Provide the Contractor's share of savings by adding the amount calculated to the contract price or fee.
- (g) Collateral savings. If a VECP is accepted, the Contracting Officer will increase the instant contract amount by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings will not exceed the contract's firm-fixed-price or estimated cost, at the time the VECP is accepted, or \$100,000, whichever is greater. The Contracting Officer is the sole determiner of the amount of collateral savings.
- (h) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of \$50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(i) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering-- Construction clause of contract , shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations." If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (SEP 1996)

- (a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.
- (b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:
 - (1) Stop work as specified in the notice.
 - (2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.
 - (3) Terminate all subcontracts to the extent they relate to the work terminated.

(4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

(5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.

(6) As directed by the Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.

(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in subparagraph (b)(6) of this clause; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After expiration of the plant clearance period as defined in Subpart 45.6 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.

(e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (g) or paragraph (g) of this clause, exclusive of costs shown in subparagraph (g)(3) of this clause, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and the Contracting Officer fail to agree on the whole amount to be paid because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined by the Contracting Officer as follows, but without duplication of any amounts agreed on under paragraph (f) of this clause:

(1) The contract price for completed supplies or services accepted by the Government (or sold or acquired under subparagraph (b)(9) of this clause) not previously paid for, adjusted for any saving of freight and other charges.

(2) The total of--

(i) The costs incurred in the performance of the work terminated, including initial costs and preparatory expense allocable thereto, but excluding any costs attributable to supplies or services paid or to be paid under subparagraph (f)(1) of this clause;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(2)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(2)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(3) The reasonable costs of settlement of the work terminated, including--

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value, as determined by the Contracting Officer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted--

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable

adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

52.249-10 DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)

(a) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract including any extension, or fails to complete the work within this time, the Government may, by written notice to the Contractor, terminate the right to proceed with the work (or the separable part of the work) that has been delayed. In this event, the Government may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Government resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Government in completing the work.

(b) The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause, if--

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include

- (i) acts of God or of the public enemy,
- (ii) acts of the Government in either its sovereign or contractual capacity,
- (iii) acts of another Contractor in the performance of a contract with the Government,
- (iv) fires,
- (v) floods,
- (vi) epidemics,
- (vii) quarantine restrictions,

(viii) strikes,

(ix) freight embargoes,

(x) unusually severe weather, or delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any delay (unless extended by the Contracting Officer), notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, the time for completing the work shall be extended. The findings of the Contracting Officer shall be final and conclusive on the parties, but subject to appeal under the Disputes clause.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government.

The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://www.arnet.gov.far>

<http://farsite.hill.af.mil>

<http://www.dtic.mil//dfars>

52.252-4 ALTERATIONS IN CONTRACT (APR 1984)

Portions of this contract are altered as follows:

None

(End of clause)

52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES (APR 1984)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any _____ (48 CFR _____) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

52.253-1 COMPUTER GENERATED FORMS (JAN 1991)

(a) Any data required to be submitted on a Standard or Optional Form prescribed by the Federal Acquisition Regulation (FAR) may be submitted on a computer generated version of the form, provided there is no change to the

name, content, or sequence of the data elements on the form, and provided the form carries the Standard or Optional Form number and edition date.

(b) Unless prohibited by agency regulations, any data required to be submitted on an agency unique form prescribed by an agency supplement to the FAR may be submitted on a computer generated version of the form provided there is no change to the name, content, or sequence of the data elements on the form and provided the form carries the agency form number and edition date.

(c) If the Contractor submits a computer generated version of a form that is different than the required form, then the rights and obligations of the parties will be determined based on the content of the required form.

252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)

(a) "Definition. Contracting officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

252.203-7001 PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE-CONTRACT-RELATED FELONIES (MAR 1999)

(a) Definitions. As used in this clause—

(1) "Arising out of a contract with the DoD" means any act in connection with—

(i) Attempting to obtain;

(ii) Obtaining, or

(iii) Performing a contract or first-tier subcontract of any agency, department, or component of the Department of Defense (DoD).

(2) "Conviction of fraud or any other felony" means any conviction for fraud or a felony in violation of state or Federal criminal statutes, whether entered on a verdict or plea, including a plea of *nolo contendere*, for which sentence has been imposed.

(3) "Date of conviction" means the date judgment was entered against the individual.

(b) Any individual who is convicted after September 29, 1988, of fraud or any other felony arising out of a contract with the DoD is prohibited from serving--

(1) In a management or supervisory capacity on any DoD contract or first-tier subcontract;

(2) On the board of directors of any DoD contractor or first-tier subcontractor;

(3) As a consultant, agent, or representative for any DoD contractor or first-tier subcontractor; or

(4) In any other capacity with the authority to influence, advise, or control the decisions of any DoD contractor or subcontractor with regard to any DoD contract or first-tier subcontract.

(c) Unless waived, the prohibition in paragraph (b) of this clause applies for not less than 5 years from the date of conviction.

(d) 10 U.S.C. 2408 provides that a defense contractor or first-tier subcontractor shall be subject to a criminal penalty of not more than \$500,000 if convicted of knowingly—

(1) Employing a person under a prohibition specified in paragraph (b) of this clause; or

(2) Allowing such a person to serve on the board of directors of the contractor or first-tier subcontractor.

(e) In addition to the criminal penalties contained in 10 U.S.C. 2408, the Government may consider other available remedies, such as—

(1) Suspension or debarment;

(2) Cancellation of the contract at no cost to the Government; or

(3) Termination of the contract for default.

(f) The Contractor may submit written requests for waiver of the prohibition in paragraph (b) of this clause to the Contracting Officer. Requests shall clearly identify—

(1) The person involved;

(2) The nature of the conviction and resultant sentence or punishment imposed;

(3) The reasons for the requested waiver; and

(4) An explanation of why a waiver is in the interest of national security.

(g) The Contractor agrees to include the substance of this clause, appropriately modified to reflect the identity and relationship of the parties, in all first-tier subcontracts exceeding the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation, except those for commercial items or components.

(h) Pursuant to 10 U.S.C. 2408(c), defense contractors and subcontractors may obtain information as to whether a particular person has been convicted of fraud or any other felony arising out of a contract with the DoD by contacting The Office of Justice Programs, The Denial of Federal Benefits Office, U.S. Department of Justice, telephone (202) 616-3507.

(End of clause)

252.203-7002 DISPLAY OF DOD HOTLINE POSTER (DEC 1991)

(a) The Contractor shall display prominently in common work areas within business segments performing work under Department of Defense (DoD) contracts, DoD Hotline Posters prepared by the DoD Office of the Inspector General.

(b) DoD Hotline Posters may be obtained from the DoD Inspector General, ATTN: Defense Hotline, 400 Army Navy Drive, Washington, DC 22202-2884.

(c) The Contractor need not comply with paragraph (a) of this clause if it has established a mechanism, such as a

hotline, by which employees may report suspected instances of improper conduct, and instructions that encourage employees to make such reports.

(End of clause)

252.204-7000 DISCLOSURE OF INFORMATION (DEC 1991)

(a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract, unless--

(1) The Contracting Officer has given prior written approval; or

(2) The information is otherwise in the public domain before the date of release.

(b) Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release.

(c) The Contractor agrees to include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.

(End of clause)

252.205-7000 PROVISION OF INFORMATION TO COOPERATIVE AGREEMENT HOLDERS (DEC 1991)

(a) Definition.

"Cooperative agreement holder" means a State or local government; a private, nonprofit organization; a tribal organization (as defined in section 4(c) of the Indian Self-Determination and Education Assistance Act (Pub. L. 93-268; 25 U.S.C. 450 (c))); or an economic enterprise (as defined in section 3(e) of the Indian Financing Act of 1974 (Pub. L. 93-362; 25 U.S.C. 1452(e))) whether such economic enterprise is organized for profit or nonprofit purposes; which has an agreement with the Defense Logistics Agency to furnish procurement technical assistance to business entities.

(b) The Contractor shall provide cooperative agreement holders, upon their request, with a list of those appropriate employees or offices responsible for entering into subcontracts under defense contracts. The list shall include the business address, telephone number, and area of responsibility of each employee or office.

(c) The Contractor need not provide the listing to a particular cooperative agreement holder more frequently than once a year.

(End of clause)

252.209-7000 ACQUISITION FROM SUBCONTRACTORS SUBJECT TO ONSITE INSPECTION UNDER THE INTERMEDIATE-RANGE NUCLEAR FORCES (INF) TREATY (NOV 1995)

(a) The Contractor shall not deny consideration for a subcontract award under this contract to a potential subcontractor subject to on-site inspection under the INF Treaty, or a similar treaty, solely or in part because of the actual or potential presence of Soviet inspectors at the subcontractor's facility, unless the decision is approved by the Contracting Officer.

(b) The Contractor shall incorporate this clause, including this paragraph (b), in all solicitations and contracts exceeding the simplified acquisition threshold in part 13 of the Federal Acquisition Regulation, except those for commercial items.

252.219-7009 SECTION 8(A) DIRECT AWARD (JUN 1998)

(a) This contract is issued as a direct award between the contracting office and the 8(a) Contractor pursuant to the Memorandum of Understanding dated May 6, 1998, between the Small Business Administration (SBA) and the Department of Defense. Accordingly, the SBA is not a party to this contract. SBA does retain responsibility for 8(a) certification, for 8(a) eligibility determinations and related issues, and for providing counseling and assistance to the 8(a) Contractor under the 8(a) Program. The cognizant SBA district office is:

US Small Business Administration
 Santa Ana District Office
 ATTN: Don Mitchell
 200 West Santa Ana Blvd., Suite 700
 Santa Ana, CA 92701

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

(c) The Contractor agrees that--

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

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

(End of Clause)

252.223-7004 DRUG-FREE WORK FORCE (SEP 1988)

(a) Definitions.

(1) "Employee in a sensitive position," as used in this clause, means an employee who has been granted access to classified information; or employees in other positions that the Contractor determines involve national security; health or safety, or functions other than the foregoing requiring a high degree of trust and confidence.

(2) "Illegal drugs," as used in this clause, means controlled substances included in Schedules I and II, as defined by section 802(6) of title 21 of the United States Code, the possession of which is unlawful under chapter 13 of that Title. The term "illegal drugs" does not mean the use of a controlled substance pursuant to a valid prescription or other uses authorized by law.

(b) The Contractor agrees to institute and maintain a program for achieving the objective of a drug-free work force. While this clause defines criteria for such a program, contractors are encouraged to implement alternative approaches comparable to the criteria in paragraph (c) that are designed to achieve the objectives of this clause.

(c) Contractor programs shall include the following, or appropriate alternatives:

(1) Employee assistance programs emphasizing high level direction, education, counseling, rehabilitation, and coordination with available community resources;

(2) Supervisory training to assist in identifying and addressing illegal drug use by Contractor employees;

(3) Provision for self-referrals as well as supervisory referrals to treatment with maximum respect for individual confidentiality consistent with safety and security issues;

(4) Provision for identifying illegal drug users, including testing on a controlled and carefully monitored basis. Employee drug testing programs shall be established taking account of the following:

(i) The Contractor shall establish a program that provides for testing for the use of illegal drugs by employees in sensitive positions. The extent of and criteria for such testing shall be determined by the Contractor based on considerations that include the nature of the work being performed under the contract, the employee's duties, and efficient use of Contractor resources, and the risks to health, safety, or national security that could result from the failure of an employee adequately to discharge his or her position.

(ii) In addition, the Contractor may establish a program for employee drug testing--

(A) When there is a reasonable suspicion that an employee uses illegal drugs; or

(B) When an employees has been involved in an accident or unsafe practice;

(C) As part of or as a follow-up to counseling or rehabilitation for illegal drug use;

(D) As part of a voluntary employee drug testing program.

(iii) The Contractor may establish a program to test applicants for employment for illegal drug use.

(iv) For the purpose of administering this clause, testing for illegal drugs may be limited to those substances for which testing is prescribed by section 2.1 of subpart B of the "Mandatory Guidelines for Federal Workplace Drug Testing Programs" (53 FR 11980 (April 11, 1988), issued by the Department of Health and Human Services.

(d) Contractors shall adopt appropriate personnel procedures to deal with employees who are found to be using drugs illegally. Contractors shall not allow any employee to remain on duty or perform in a sensitive position who is found to use illegal drugs until such times as the Contractor, in accordance with procedures established by the Contractor, determines that the employee may perform in such a position.

(e) The provisions of this clause pertaining to drug testing program shall not apply to the extent that are inconsistent with state or local law, or with an existing collective bargaining agreement; provided that with respect to the latter, the Contractor agrees those issues that are in conflict will be a subject of negotiation at the next collective bargaining session.

(End of clause)

252.225-7012 Preference for Certain Domestic Commodities (AUG 2000)

(a) The Contractor agrees to deliver under this contract only such of the following articles that have been grown, reprocessed, reused, or produced in the United States, its possessions, or Puerto Rico --

(1) Food;

(2) Clothing;

- (3) Tents, tarpaulins, or covers;
- (4) Cotton and other natural fiber products;
- (5) Woven silk or woven silk blends;
- (6) Spun silk yarn for cartridge cloth;
- (7) Synthetic fabric, and coated synthetic fabric, including all textile fibers and yarns that are for use in such fabrics;
- (8) Canvas products;
- (9) Wool (whether in the form of fiber or yarn or contained in fabrics, materials, or manufactured articles); or
- (10) Any item of individual equipment (Federal supply Classification 8465) manufactured from or containing such fibers, yarns, fabrics, or materials.

(b) This clause does not apply --

(1) To supplies listed in FAR section 25.104(a), or other supplies for which the Government has determined that a satisfactory quality and sufficient quantity cannot be acquired as and when needed at U.S. market prices;

(2) To foods which have been manufactured or processed in the United States, its possessions, or Puerto Rico;

(3) To chemical warfare protective clothing produced in the countries listed in subsection 225.872-1 of the Defense FAR Supplement; or

(4) To fibers and yarns that are for use in synthetic fabric or coated synthetic fabric (but does apply to the synthetic or coated synthetic fabric itself), if--

(i) The fabric is to be used as a component of an end item that is not a textile product. Examples of textile products, made in whole or in part of fabric, include--

(a) Draperies, floor coverings, furnishings, and bedding (Federal Supply Group 72, Household and Commercial Furnishings and Appliances);

(B) Items made in whole or in part of fabric in Federal Supply Group 83, Textile/leather/furs/apparel/findings/tents/flags, or Federal Supply Group 84, Clothing, Individual Equipment and Insignia;

(C) Upholstered seats (whether for household, office, or other use); and

(D) Parachutes (Federal Supply Class 1670); or

(ii) The fibers and yarns are para-aramid fibers and yarns manufactured in the Netherlands.

(End of clause)

252.225-7031 SECONDARY ARAB BOYCOTT OF ISRAEL (JUN 1992)

(a) Definitions. As used in this clause--

(1) "Foreign person" means any person other than a United States person as defined in Section 16(2) of the Export Administration Act of 1979 (50 U.S.C. App. Sec 2415).

(2) "United States person" is defined in Section 16(2) of the Export Administration Act of 1979 and means any United States resident or national (other than an individual resident outside the United States and employed by other than a United States person), any domestic concern (including any permanent domestic establishment of any foreign concern), and any foreign subsidiary or affiliate (including any permanent foreign establishment) of any domestic concern which is controlled in fact by such domestic concerns, as determined under regulations of the President.

(b) Certification. By submitting this offer, the Offeror, if a foreign person, company or entity, certifies that it--

(1) Does not comply with the Secondary Arab Boycott of Israel; and

(2) Is not taking or knowingly agreeing to take any action, with respect to the Secondary Boycott of Israel by Arab countries, which 50 U.S.C. App. Sec 2407(a) prohibits a United States person from taking.

(End of clause)

252.227-7000 Non-estoppel. (OCT 1966)

The Government reserves the right at any time to contest the enforceability, validity, scope of, or the title to any patent or patent application herein licensed without waiving or forfeiting any right under this contract.

252.227-7022 GOVERNMENT RIGHTS (UNLIMITED) (MAR 1979)

The Government shall have unlimited rights, in all drawings, designs, specifications, notes and other works developed in the performance of this contract, including the right to use same on any other Government design or construction without additional compensation to the Contractor. The Contractor hereby grants to the Government a paid-up license throughout the world to all such works to which he may assert or establish any claim under design patent or copyright laws. The Contractor for a period of three (3) years after completion of the project agrees to furnish the original or copies of all such works on the request of the Contracting Officer.

252.227-7023 DRAWINGS AND OTHER DATA TO BECOME PROPERTY OF GOVERNMENT. (MAR 1979)

All designs, drawings, specifications, notes and other works developed in the performance of this contract shall become the sole property of the Government and may be used on any other design or construction without additional compensation to the Contractor. The Government shall be considered the "person for whom the work was prepared" for the purpose of authorship in any copyrightable work under 17 U.S.C. 201(b). With respect thereto, the Contractor agrees not to assert or authorize others to assert any rights nor establish any claim under the design patent or copyright laws. The Contractor for a period of three (3) years after completion of the project agrees to furnish all retained works on the request of the Contracting Officer. Unless otherwise provided in this contract, the Contractor shall have the right to retain copies of all works beyond such period.

252.227-7033 RIGHTS IN SHOP DRAWINGS (APR 1966)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower-tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.

252.231-7000 SUPPLEMENTAL COST PRINCIPLES (DEC 1991)

When the allowability of costs under this contract is determined in accordance with part 31 of the Federal Acquisition Regulation (FAR), allowability shall also be determined in accordance with part 231 of the Defense FAR Supplement, in effect on the date of this contract.

252.236-7000 MODIFICATION PROPOSALS - PRICE BREAKDOWN. (DEC 1991)

(a) The Contractor shall furnish a price breakdown, itemized as required and within the time specified by the Contracting Officer, with any proposal for a contract modification.

(b) The price breakdown --

(1) Must include sufficient detail to permit an analysis of profit, and of all costs for --

(i) Material;

(ii) Labor;

(iii) Equipment;

(iv) Subcontracts; and

(v) Overhead; and

(2) Must cover all work involved in the modification, whether the work was deleted, added, or changed.

(c) The Contractor shall provide similar price breakdowns to support any amounts claimed for subcontracts.

(d) The Contractor's proposal shall include a justification for any time extension proposed.

252.236-7008 CONTRACT PRICES - BIDDING SCHEDULES. (DEC 1991)

(a) The Government's payment for the items listed in the Bidding Schedule shall constitute full compensation to the Contractor for --

(1) Furnishing all plant, labor, equipment, appliances, and materials; and

(2) Performing all operations required to complete the work in conformity with the drawings and specifications.

(b) The Contractor shall include in the prices for the items listed in the Bidding Schedule all costs for work in the specifications, whether or not specifically listed in the Bidding Schedule.

252.242-7000 POSTAWARD CONFERENCE (DEC 1991)

The Contractor agrees to attend any postaward conference convened by the contracting activity or contract administration office in accordance with Federal Acquisition Regulation subpart 42.5.

(End of clause)

252.243-7001 PRICING OF CONTRACT MODIFICATIONS (DEC 1991)

When costs are a factor in any price adjustment under this contract, the contract cost principles and procedures in FAR part 31 and DFARS part 231, in effect on the date of this contract, apply.

252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT (MAR 1998)

(a) The amount of any request for equitable adjustment to contract terms shall accurately reflect the contract adjustment for which the Contractor believes the Government is liable. The request shall include only costs for performing the change, and shall not include any costs that already have been reimbursed or that have been separately claimed. All indirect costs included in the request shall be properly allocable to the change in accordance with applicable acquisition regulations.

(b) In accordance with 10 U.S.C. 2410(a), any request for equitable adjustment to contract terms that exceeds the simplified acquisition threshold shall bear, at the time of submission, the following certificate executed by an individual authorized to certify the request on behalf of the Contractor:

I certify that the request is made in good faith, and that the supporting data are accurate and complete to the best of my knowledge and belief.

(Official's Name)

(Title)

(c) The certification in paragraph (b) of this clause requires full disclosure of all relevant facts, including--

(1) Cost or pricing data if required in accordance with subsection 15.403-4 of the Federal Acquisition Regulation (FAR); and

(2) Information other than cost or pricing data, in accordance with subsection 15.403-3 of the FAR, including actual cost data and data to support any estimated costs, even if cost or pricing data are not required.

(d) The certification requirement in paragraph (b) of this clause does not apply to---

(1) Requests for routine contract payments; for example, requests for payment for accepted supplies and services, routine vouchers under a cost-reimbursement type contract, or progress payment invoices; or

(2) Final adjustment under an incentive provision of the contract.

252.247-7024 Notification of Transportation of Supplies by Sea (MAR 2000)

(a) The Contractor has indicated by the response to the solicitation provision, Representation of Extent of Transportation by Sea, that it did not anticipate transporting by sea any supplies. If, however, after the award of this contract, the Contractor learns that supplies, as defined in the Transportation of Supplies by Sea clause of this contract, will be transported by sea, the Contractor --

(1) Shall notify the Contracting Officer of that fact; and

(2) Hereby agrees to comply with all the terms and conditions of the Transportation of Supplies by Sea clause of this contract.

(b) The Contractor shall include this clause; including this paragraph (b), revised as necessary to reflect the relationship of the contracting parties--

(1) In all subcontracts under this contract, if this contract is a construction contract; or

(2) If this contract is not a construction contract, in all subcontracts under this contract that are for--

(i) Noncommercial items; or

(ii) Commercial items that--

(A) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it subcontracts for f.o.b. destination shipment);

(B) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(C) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(End of clause)

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SECTION 00800

52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to (a) commence work under this contract within 1 calendar day after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than **210** calendar days after the Contractor received the Notice to Proceed, except for maintenance of seeding and planting. Maintenance of seeding and planting shall be accomplished as soon as practicable and within the time limits stated in the Technical Provision or as directed by the Contracting Officer. The time stated for completion shall include final cleanup of the premises.

(End of clause)

52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of **\$1,117.00** for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

52.211-18 VARIATION IN ESTIMATED QUANTITY (APR 1984)

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an extension, the Contracting Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgement of the Contracting Officer, is justified.

52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
12.2%	6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

- (1) Name, address, and telephone number of the subcontractor;
- (2) Employer's identification number of the subcontractor;
- (3) Estimated dollar amount of the subcontract;
- (4) Estimated starting and completion dates of the subcontract; and
- (5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is **Orange County, California**

52.228-12 Prospective Subcontractor Requests for Bonds. (OCT 1995)

In accordance with Section 806(a)(3) of Pub. L. 102-190, as amended by Sections 2091 and 8105 of Pub. L. 103-355, upon the request of a prospective subcontractor or supplier offering to furnish labor or material for the performance of this contract for which a payment bond has been furnished to the Government pursuant to the Miller Act, the Contractor shall promptly provide a copy of such payment bond to the requester.

52.228-14 IRREVOCABLE LETTER OF CREDIT (DEC 1999)

(a) "Irrevocable letter of credit" (ILC), as used in this clause, means a written commitment by a federally insured financial institution to pay all or part of a stated amount of money, until the expiration date of the letter, upon presentation by the Government (the beneficiary) of a written demand therefor. Neither the financial institution nor the offeror/Contractor can revoke or condition the letter of credit.

(b) If the offeror intends to use an ILC in lieu of a bid bond, or to secure other types of bonds such as performance and payment bonds, the letter of credit and letter of confirmation formats in paragraphs (e) and (f) of this clause shall be used.

(c) The letter of credit shall be irrevocable, shall require presentation of no document other than a written demand and the ILC (including confirming letter, if any), shall be issued/confirmed by an acceptable federally insured financial institution as provided in paragraph (d) of this clause, and--

(1) If used as a bid guarantee, the ILC shall expire no earlier than 60 days after the close of the bid acceptance period;

(2) If used as an alternative to corporate or individual sureties as security for a performance or payment bond, the offeror/Contractor may submit an ILC with an initial expiration date estimated to cover the entire period for which financial security is required or may submit an ILC with an initial expiration date that is a minimum period of one year from the date of issuance. The ILC shall provide that, unless the issuer provides the beneficiary written notice of non-renewal at least 60 days in advance of the current expiration date, the ILC is automatically extended without amendment for one year from the expiration date, or any future expiration date, until the period of required coverage is completed and the Contracting Officer provides the financial institution with a written statement waiving the right to payment. The period of required coverage shall be:

(i) For contracts subject to the Miller Act, the later of--

(A) One year following the expected date of final payment;

(B) For performance bonds only, until completion of any warranty period; or

(C) For payment bonds only, until resolution of all claims filed against the payment bond during the one-year period following final payment.

(ii) For contracts not subject to the Miller Act, the later of--

(A) 90 days following final payment; or

(B) For performance bonds only, until completion of any warranty period.

(d) Only federally insured financial institutions rated investment grade or higher shall issue or confirm the ILC. The offeror/Contractor shall provide the Contracting Officer a credit rating that indicates the financial institution has the required rating(s) as of the date of issuance of the ILC. Unless the financial institution issuing the ILC had letter of credit business of less than \$25 million in the past year, ILCs over \$5 million must be confirmed by another acceptable financial institution that had letter of credit business of less than \$25 million in the past year.

(e) The following format shall be used by the issuing financial institution to create an ILC:

[Issuing Financial Institution's Letterhead or Name and Address]

Issue Date _____

IRREVOCABLE LETTER OF CREDIT NO. _____

Account party's name _____

Account party's address _____

For Solicitation No. _____ (for reference only)

TO: [U.S. Government agency]

[U.S. Government agency's address]

1. We hereby establish this irrevocable and transferable Letter of Credit in your favor for one or more drawings up to United States \$ _____. This Letter of Credit is payable at [issuing financial institution's and, if any, confirming financial institution's] office at [issuing financial institution's address and, if any, confirming financial institution's address] and expires with our close of business on _____, or any automatically extended expiration date.

2. We hereby undertake to honor your or the transferee's sight draft(s) drawn on the issuing or, if any, the confirming financial institution, for all or any part of this credit if presented with this Letter of Credit and confirmation, if any, at the office specified in paragraph 1 of this Letter of Credit on or before the expiration date or any automatically extended expiration date.

3. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this Letter of Credit that it is deemed to be automatically extended without amendment for one year from the expiration date hereof, or any future expiration date, unless at least 60 days prior to any expiration date, we notify you or the transferee by registered mail, or other receipted means of delivery, that we elect not to consider this Letter of Credit renewed for any such additional period. At the time we notify you, we also agree to notify the account party (and confirming financial institution, if any) by the same means of delivery.

4. This Letter of Credit is transferable. Transfers and assignments of proceeds are to be effected without charge to either the beneficiary or the transferee/assignee of proceeds. Such transfer or assignment shall be only at the written direction of the Government (the beneficiary) in a form satisfactory to the issuing financial institution and the confirming financial institution, if any.

5. This Letter of Credit is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ [state of confirming financial institution, if any, otherwise state of issuing financial institution].

6. If this credit expires during an interruption of business of this financial institution as described in Article 17 of the UCP, the financial institution specifically agrees to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

[Issuing financial institution]

(f) The following format shall be used by the financial institution to confirm an ILC:

[Confirming Financial Institution's Letterhead or Name and Address]

(Date) _____

Our Letter of Credit Advice Number _____

Beneficiary: _____ [U.S. Government agency]

Issuing Financial Institution: _____

Issuing Financial Institution's LC No.: _____

Gentlemen:

1. We hereby confirm the above indicated Letter of Credit, the original of which is attached, issued by _____ [name of issuing financial institution] for drawings of up to United States dollars _____/U.S. \$_____ and expiring with our close of business on _____ [the expiration date], or any automatically extended expiration date.

2. Draft(s) drawn under the Letter of Credit and this Confirmation are payable at our office located at _____.

3. We hereby undertake to honor sight draft(s) drawn under and presented with the Letter of Credit and this Confirmation at our offices as specified herein.

4. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this confirmation that it be deemed automatically extended without amendment for one year from the expiration date hereof, or any automatically extended expiration date, unless:

(a) At least 60 days prior to any such expiration date, we shall notify the Contracting Officer, or the transferee and the issuing financial institution, by registered mail or other receipted means of delivery, that we elect not to consider this confirmation extended for any such additional period; or

(b) The issuing financial institution shall have exercised its right to notify you or the transferee, the account party, and ourselves, of its election not to extend the expiration date of the Letter of Credit.

5. This confirmation is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ [state of confirming financial institution].

6. If this confirmation expires during an interruption of business of this financial institution as described in Article 17 of the UCP, we specifically agree to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

[Confirming financial institution]

(g) The following format shall be used by the Contracting Officer for a sight draft to draw on the Letter of Credit:

SIGHT DRAFT

[City, State]

(Date) _____

[Name and address of financial institution]

Pay to the order of _____ [Beneficiary Agency] _____ the sum of United States \$ _____. This draft is drawn under Irrevocable Letter of Credit No. _____.

[Beneficiary Agency]

By: _____

(End of clause)

52.228-15 Performance and Payment Bonds--Construction (JUL 2000)-

(a) Definitions. As used in this clause--

Original contract price means the award price of the contract; or, for requirements contracts, the price payable for the estimated total quantity; or, for indefinite-quantity contracts, the price payable for the specified minimum quantity. Original contract price does not include the price of any options, except those options exercised at the time of contract award.

(b) Amount of required bonds. Unless the resulting contract price is \$100,000 or less, the successful offeror shall furnish performance and payment bonds to the Contracting Officer as follows:

(1) Performance bonds (Standard Form 25). The penal amount of performance bonds at the time of contract award shall be 100 percent of the original contract price.

(2) Payment Bonds (Standard Form 25-A). The penal amount of payment bonds at the time of contract award shall be 100 percent of the original contract price.

(3) Additional bond protection. (i) The Government may require additional performance and payment bond protection if the contract price is increased. The increase in protection generally will equal 100 percent of the increase in contract price.

(ii) The Government may secure the additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(c) Furnishing executed bonds. The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified in the Bid Guarantee provision of the solicitation, or otherwise specified by the Contracting Officer, but in any event, before starting work.

(d) Surety or other security for bonds. The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier's check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the Federal Register or may be obtained from the U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 401 14th Street, NW, 2nd Floor, West Wing, Washington, DC 20227.

(e) Notice of subcontractor waiver of protection (40 U.S.C. 270b(c)). Any waiver of the right to sue on the payment bond is void unless it is in writing, signed by the person whose right is waived, and executed after such person has first furnished labor or material for use in the performance of the contract.

(End of clause)

52.0001-4001 CONTRACT ADMINISTRATION DATA

The Contract Administration Office for this contract subsequent to award is:

Department of the Army
Los Angeles District, Corps of Engineers
P.O. Box 532711
Los Angeles, California 90053-2325

ATTN: Ms. Cindy Myrtetus
Telephone No: Area Code (213) 452-3247

Payment will be made by:

USACE Finance Center
ATTN: CEFC-AO-P
5270 Integrity Drive
Millington, TN 38054-5005

Submit Invoices to:

Please refer to Block No. 26 on Standard Form 11442, "Solicitation, Offer and Award."

52.0028-4001 REQUIRED INSURANCE

Insurance is required as follows:

a. Either Workman's Compensation or Employer's Liability Insurance with a minimum limit of \$100,000.00.

b. General Liability. The Contracting Officer shall require bodily injury liability insurance coverage written on the comprehensive form or policy of at least \$500,000.00 per occurrence.

c. Automobile Liability Insurance for Bodily Injury and Property Damage with minimum limits of \$200,000.00 for injury or death of any one person; \$500,000.00 for each accident or occurrence of bodily injury liability; and \$20,000.00 for each accident or occurrence for property liability.

d. In every case the insurance coverage shall amount to at least the limits stated above. However, where the Financial Responsibility Compulsory Insurance Law of the State in which the installation is located requires higher limits, the Automobile Liability Insurance Policy should provide coverage of at least those limits.

Prior to the commencement of work hereunder, the Contractor shall furnish to the Contracting Office a certificate or written statement of the above required insurance. The policies evidencing required

insurance shall contain an endorsement to the effect that cancellation or any material change in the policies adversely affecting the interests of the Government in such insurance shall not be effective until 10 days after written notice thereof to the Contracting Officer.

The Contractor agrees to insert the substance of this clause, including this paragraph, in all subcontracts

52.0231-4001 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (MAR 1995)
EFARS 52-231-5000

(a) Allowable costs for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs cannot 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 EP 1110-1-8, "Construction Equipment Ownership and Operating Expense Schedule," Region VII. Working conditions shall be considered to be average for determining equipment rates using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retrospective pricing, the schedule in effect at the time the work was performed shall apply.

(b) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36 substantiated by certified copies of paid invoices. Rates for equipment rented from an organization under common control, lease-purchase or sale-leaseback arrangements will be determined using the schedule except that rental costs leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees are allowable. Costs for major repairs and overhaul are unallowable.

(c) When actual equipment costs are proposed and the total amount of the pricing action is over \$25,000, cost or pricing data shall be submitted on Standard Form 1411, "Contract Pricing Proposal Cover Sheet." By submitting cost or pricing data, the contractor grants to the contracting officer or an authorizing representative the right to examine those books, records, documents and other supporting data that will permit evaluation of the proposed equipment costs. After price agreement the contractor shall certify that the equipment costs of pricing data submitted are accurate, complete and current.

(End of clause)

52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—CENTRAL CONTRACTOR
REGISTRATION (MAY 1999)

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term "EFT" refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Contractor EFT arrangements. If the Contractor has identified multiple payment receiving points (i.e., more than one remittance address and/or EFT information set) in the CCR database, and the Contractor has not notified the Government of the payment receiving point applicable to this contract, the Government shall make payment to the first payment receiving point (EFT information set or remittance address as applicable) listed in the CCR database.

(f) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(g) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(h) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register in the CCR database and shall be paid by EFT in accordance with the terms of this clause. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(i) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(j) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

(End of Clause)

52.232-4001 CONTINUING CONTRACTS (ALTERNATE) (MAR 1995) EFARS 52-232-5002

(a) Funds are not available at the inception of this contract to cover the entire contract price. The sum of **\$100,000.00** has been reserved for this contract and is available for payment to the contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which additional funds, together with funds provided by one or more non-federal project sponsors will be reserved for this contract. The liability of the United States for payment beyond the funds reserved for this contract is contingent on the reservation of additional funds.

(b) Failure to make payment in excess of the amount currently reserved, or that may be reserved from time to time, shall not be considered a breach of this contract, and shall not entitle the contractor to a price adjustment under the terms of this contract except as specifically provided in paragraphs (e) and (h) below.

(c) The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The contracting officer will promptly notify the contractor of any additional funds reserved for the contract by issuing and administrative modification to the contract.

(d) If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the contractor shall give written notice to the contracting officer of the estimated date of exhaustion and of additional funds which will be needed to meet payments due or to become due under this contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

(e) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. If and when sufficient additional funds are reserved, the contractor shall be entitled to simple interest on any payment that the contracting officer determines was actually earned under the terms of this contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 Stat 97, as in effect on the first day of the delay in such payment.

(f) Any suspension, delay, or interruption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the contractor to any price adjustment under a "Suspension of Work" or similar clause or in any other manner under this contract.

(g) An equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

(h) If, upon the expiration of sixty (60) days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the contractor, by written notice delivered to the contracting officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be at no cost to the Government, except that, to the extent that additional funds to make payment therefore are allocated to this contract, it may be treated as a termination for the convenience of the Government.

(i) If at any time it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the contractor because of work performed and to be performed under this contract during the fiscal year, the Government reserves the right, after notice to the contractor, to reduce said reservation by the amount of such excess.

(j) The term "Reservation" means monies that have been set aside and made available for payments under this contract.

(End of clause)

52.236-4 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 of or conclusion drawn from the data or information by the Contractor.

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys.

(b) Weather conditions: The Contractor shall satisfy himself as to the hazards likely to arise from weather conditions.

(c) Transportation facilities: The contractor shall make his own investigation of the conditions of existing public and private roads and clearances, restrictions, bridge load limits and other limitations affecting transportation and ingress and egress at the job site. The unavailability transportation facilities or limitations thereof shall not become a basis for claims against the Government or extensions of time for completion of the work

(d) N/A

52.236-16 QUANTITY SURVEYS, ALTERNATE I (APR 1984)

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

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

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

52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by," or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefore. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor.

52.0236-4001 PLANT AND MATERIAL REMOVAL AFTER CONTRACT TERMINATION (MAR 1996) EFARS 52.236-5000

Should this contract be terminated as provided in clause 52.232-5001 because of the failure of Congress to provide additional funds for its completion, the contractor may be permitted to remove plant and material on which payments for preparatory work have been made, subject to an equitable deduction from the amounts due the contractor to reimburse the United States for the unabsorbed value of such plant and material.

(End of clause)

520249-4001 BASIS FOR SETTLEMENT OF PROPOSALS EFARS 52.249-5000

Actual costs will be used to determine equipment costs for a settlement proposal submitted on the total cost basis under FAR 49.206-2(b). In evaluating a terminations settlement proposal using the total costs basis, the following principals will be applied to determine allowable equipment costs:

- (1) Actual costs for each piece of equipment, or groups of similar serial or series equipment, need not be available in the contractor's accounting records to determine total actual equipment costs.
- (2) If equipment costs have been allocated to a contract using predetermined rates, those charges will be adjusted to actual costs.
- (3) Recorded job costs adjusted for unallowable and unallowable expenses will be used to determine equipment operating expenses. ³
- (4) Ownership costs (depreciation) will be determined using the contractor's depreciation schedule (subject to the provisions of FAR 31.205-11).
- (5) License, taxes, storage and insurance costs are normally recovered as an indirect expense and unless the contractor charges these costs directly to contracts, they will be recover through the indirect expense rate.

(End of Statement)

252.236-7001 CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (AUG 2000)

(a) The Government will provide to the Contractor, without charge, one set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall--

- (1) Check all drawings furnished immediately upon receipt;
- (2) Compare all drawings and verify the figures before laying out the work;

- (3) Promptly notify the Contracting Officer of any discrepancies;
 - (4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and
 - (5) Reproduce and print contract drawings and specifications as needed.
- (c) In general--
- (1) Large-scale drawings shall govern small-scale drawings; and
 - (2) The Contractor shall follow figures marked on drawings in preference to scale measurements.
- (d) Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.
- (e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

General Decision Number CA020035
 Superseded General Decision No. CA010035
 State: California Construction Type:
 BUILDING
 DREDGING
 HEAVY HIGHWAY

County(ies):
 ORANGE BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	03/01/2002
1	03/08/2002
2	03/29/2002
3	05/10/2002
4	06/07/2002

COUNTY(ies):
 ORANGE ASBE0005B 09/24/2001

	Rates	Fringes
Includes the application of all insulating materials, protective coverings, coatings, and finishings to all types of mechanical systems		
INSULATOR/ASBESTOS WORKER	30.23	7.66

 ASBE0005D 10/04/1999

	Rates	Fringes
HAZARDOUS MATERIAL HANDLER		
Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, wheather they contain asbestos or not		
	19.70	4.87

 BOIL0092F 10/01/2001

	Rates	Fringes
BOILERMAKER	31.01	11.95

 BRCA0004T 05/01/2002

	Rates	Fringes
BRICKLAYER; MARBLE MASON	29.26	5.40

 * BRCA0018H 06/01/2002

	Rates	Fringes
TILE LAYER	26.50	7.45
TILE FINISHER	16.65	2.91
MARBLE FINISHER	19.90	3.56

 BRCA0018K 12/01/2000

	Rates	Fringes
TERRAZZO WORKER	26.78	5.34

TERRAZZO FINISHER 20.53 5.34

CARP0002A 07/01/2001

Rates Fringes

CARPENTERS:

Carpenter, cabinet installer,
insulation installer, floor
worker and acoustical installer 27.75 5.61
Shingler 27.88 5.61
Roof loader of shingles 19.52 5.61
Saw filer 27.83 5.61
Table power saw operator 27.85 5.61
Pneumatic nailer or power stapler 28.00 5.61
Millwright 28.25 5.61
Pile driver; Derrick barge;
Bridge or dock carpenter;
Cable splicer; Heavy framer;
Rockslinger 27.88 5.61
Head rockslinger 27.98 5.61
Rock barge or scow 27.98 5.61
Scaffold builder 22.00 5.61

FOOTNOTE:

Work of forming in the construction of open cut sewers or storm drains, on operations in which horizontal lagging is used in conjunction with steel H-Beams driven or placed in pre-drilled holes, for that portion of a lagged trench against which concrete is poured, namely, as a substitute for back forms (which work is performed by piledrivers): \$0.13 per hour additional.

CARP0002B 07/01/2001

Rates Fringes

DIVERS:

Diver, wet 486.08 per day 5.61
Diver, stand-by 243.04 per day 5.61
Diver tender 235.04 per day 5.61

CARP0002Q 07/01/2001

Rates Fringes

Work on wood framed construction
of single family residences,
apartments or condominiums
under 4 stories

DRYWALL INSTALLERS 19.00 5.18
DRYWALL STOCKER/SCRAPPER 10.00 4.42
All other work
DRYWALL INSTALLERS 27.75 6.43
DRYWALL STOCKER/SCRAPPER 10.00 4.42

CARP0003H 07/01/2001

Rates Fringes

MODULAR FURNITURE INSTALLER 14.99 5.805
LOW WALL MODULAR TECHNICIAN 18.22 5.805
FULL WALL TECHNICIAN 21.47 5.805

ELEC0011I 12/01/2001

Rates Fringes

COMMUNICATIONS & SYSTEMS:

Installer	22.13	3% + 4.40
Technician	23.93	3% + 4.40

SCOPE OF WORK:

Installation, testing, service and maintenance of systems utilizing the transmission and/or transference of voice, sound, vision and digital for commercial, educational, security and entertainment purposes for the following: TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call systems, radio page, school intercom and sound, burglar alarms, fire alarm (see last paragraph below) and low voltage master clock systems in commercial buildings.

Communication Systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding all other data systems or multiple systems which include control function or power supply; excluding installation of raceway systems, conduit systems, line voltage work, and energy management systems.

 ELEC0441A 12/03/2001

	Rates	Fringes
ELECTRICIAN	30.10	3%+7.85
CABLE SPLICER	31.48	3%+7.85

 * ELEC1245C 06/01/2002

	Rates	Fringes
LINE CONSTRUCTION:		
Lineman; Cable splicer	33.16	4.5%+7.08
Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), and overhead and underground distribution line equipment)	28.19	4.5%+6.80
Groundman	21.56	4.5%+6.80
Powderman	31.51	4.5%+6.84

 ELEV0018A 09/15/2001

	Rates	Fringes
ELEVATOR MECHANIC	33.695	7.455

FOOTNOTE:

Vacation Pay: 8% with 5 or more years of service, 6% for 6 months to 5 years service. Paid Holidays: New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Friday after, and Christmas Day.

 ENGI0012C 07/01/2001

	Rates	Fringes
POWER EQUIPMENT OPERATORS:		
GROUP 1	27.05	11.30
GROUP 2	27.83	11.30
GROUP 3	28.12	11.30
GROUP 4	29.21	11.30
GROUP 5	29.43	11.30

GROUP 6	29.54	11.30
GROUP 7	29.66	11.30
GROUP 8	29.83	11.30
GROUP 9	29.93	11.30
GROUP 10	29.96	11.30
GROUP 11	30.04	11.30
GROUP 12	30.16	11.30
GROUP 13	30.33	11.30
GROUP 14	30.43	11.30
GROUP 15	30.54	11.30
GROUP 16	30.66	11.30
GROUP 17	30.83	11.30
GROUP 18	30.93	11.30
GROUP 19	31.04	11.30
GROUP 20	31.16	11.30
GROUP 21	31.66	11.30
CRANES, PILEDIVING & HOISTING EQUIPMENT:		
GROUP 1	28.00	11.30
GROUP 2	28.78	11.30
GROUP 3	29.07	11.30
GROUP 4	29.21	11.30
GROUP 5	29.43	11.30
GROUP 6	29.54	11.30
GROUP 7	29.66	11.30
GROUP 8	29.83	11.30
GROUP 9	30.00	11.30
GROUP 10	31.00	11.30
GROUP 11	32.00	11.30
GROUP 12	33.00	11.30
GROUP 13	34.00	11.30
TUNNEL WORK:		
GROUP 1	29.28	11.30
GROUP 2	29.57	11.30
GROUP 3	29.71	11.30
GROUP 4	29.93	11.30
GROUP 5	30.04	11.30
GROUP 6	30.46	11.30

FOOTNOTES: Workers required to suit up and work in a hazardous material environment: \$1.00 per hour additional.

Combination mixer and compressor operator on gunite work shall be classified as a concrete mobile mixer operator.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator (includes loed, lull or similar types under 5 tons; Generator operator; Generator, pump or compressor plant operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator); Concrete mixer operator-skip type; Conveyor operator; Fireman; Forklift operator (includes loed, lull or similar types over 5 tons; Hydrostatic pump operator; oiler crusher (asphalt or concrete plant); Petromat laydown machine; PJU side dum jack; Screening and conveyor machine oeprator (or similar types); Skiploader (wheel type up to 3/4 yd. without attachment); Tar pot fireman; Temporary heating plant operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar type

(side steer); Equipment greaser (rack); Ford Ferguson (with dragtype attachments); Helicopter radioman (ground); Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator; Concrete Pump Operator (small portable); Drilling machine operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Horizontal Directional Drilling Machine; Hydra-hammer-aero stomper; Micro Tunneling (above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

GROUP 5: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator (including water wells); Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 6: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics

operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 7: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber-tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 8: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less than 750 cu. yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth-moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self-loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 9: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

GROUP 10: Canal liner operator; Canal trimmer operator; Remote-

control earth-moving equipment operator (operating a second piece of equipment: \$1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)

GROUP 11: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

GROUP 12: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 13: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck); Tandem tractor operator (operating crawler type tractors in tandem - Quad 9 and similar type)

GROUP 14: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 15: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck)

GROUP 16: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 17: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 18: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 19: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 20: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 21: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

CRANES, PILEDRIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loed, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds. mrc)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.); Tower crane operator and tower gantry

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc)

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and

including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Tunnel mole boring machine operator

 ENGI0012D 08/01/2001

	Rates	Fringes
POWER EQUIPMENT OPERATORS:		
DREDGING:		
Leverman	33.65	11.30
Dredge dozer	30.18	11.30
Deckmate	30.07	11.30
Winch operator (stern winch on dredge)	29.52	11.30
Fireman; deckhand and bargeman	28.98	11.30
Barge mate	29.59	11.30

 * IRON0001T 07/01/2001

	Rates	Fringes
IRONWORKERS:		
Fence erector	25.19	14.575
Ornamental, reinforcing and structural	26.08	14.575

 LABO0001B 07/01/2001

	Rates	Fringes
BRICK TENDER	20.41	9.26

 LABO0002H 09/01/2001

	Rates	Fringes
LABORERS:		
GROUP 1	19.46	9.82
GROUP 2	19.96	9.82

GROUP 3	20.46	9.82
GROUP 4	21.91	9.82
GROUP 5	22.16	9.82
TUNNEL LABORERS:		
GROUP 1	22.37	9.82
GROUP 2	22.64	9.82
GROUP 3	23.05	9.82
GROUP 4	23.64	9.82
GUNITITE LABORERS:		
GROUP 1	22.34	12.24
GROUP 2	21.39	12.24
GROUP 3	17.85	12.24
HOUSEMOVERS (ONLY WHERE HOUSEMOVING IS INCIDENTAL TO A CONSTRUCTION CONTRACT):		
Housemover	15.50	8.38
Yard maintenance person	15.25	8.38

FOOTNOTE: GUNITITE PREMIUM PAY:

Workers working from a Bosn'n's Chair or suspended from a rope or cable shall receive 40 cents per hour above the foregoing applicable classification rates.

Workers doing gunite and/or shotcrete work in a tunnel shall receive 35 cents per hour above the foregoing applicable classification rates, paid on a portal-to-portal basis.

Any work performed on, in or above any smoke stack, silo, storage elevator or similar type of structure, when such structure is in excess of 75'-0" above base level and which work must be performed in whole or in part more than 75'-0" above base level, that work performed above the 75'-0" level shall be compensated for at 35 cents per hour above the applicable classification wage rate.

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete screeding for rough strike-off; Concrete, water curing; Demolition laborer, the cleaning of brick if performed by a worker performing any other phase of demolition work, and the cleaning of lumber; Fire watcher, limber, brush loader, piler and debris handler; Flag person; Gas, oil and/or water pipeline laborer; Laborer, asphalt-rubber material loader; Laborer, general or construction; Laborer, general clean-up; Laborer, landscaping; Laborer, jetting; Laborer, temporary water and air lines; Material hose operator (walls, slabs, floors and decks); Plugging, filling of shee bolt holes; Dry packing of concrete; Railroad maintenance, repair track person and road beds; Streetcar and railroad construction track laborers; Rigging and signaling; Scaler; Slip form raiser; Slurry seal crew (mixer operator, applicator operator, squeegee person, shuttle person, top person), filling of cracks by any method on any surface; Tar and mortar; Tool crib or tool house laborer; Traffic control by any method; Window cleaner; Wire mesh pulling - all concrete pouring operations

GROUP 2: Asphalt shoveler; Cement dumper (on 1 yd. or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute handler, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundation, footings, curbs, gutters and sidewalks; Concrete curer, impervious membrane and form oiler; Cutting torch operator (demolition); Fine grader, highways and street paving, airport,

runways and similar type heavy construction; Gas, oil and/or water pipeline wrapper - pot tender and form person; Guinea chaser; Headerboard person - asphalt; Laborer, packing rod steel and pans; Membrane vapor barrier installer; Power broom sweeper (small); Riprap stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Sandblaster (pot tender); Septic tank digger and installer(lead); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush shredder; Underground laborer, including caisson bellower

GROUP 3: Buggymobile person; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2-1/2 ft. drill steel or longer; Dri-pak-it machine; Gas, oil and/or water pipeline wrapper, 6-in. pipe and over, by any method, inside and out; High scaler (including drilling of same); Hydro seeder and similar type; Impact wrench multi-plate; Kettle person, pot person and workers applying asphalt, lay-kold, creosote, lime caustic and similar type materials ("applying" means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, vibrating machine, pavement breaker, air blasting, come-alongs, and similar mechanical tools not separately classified herein; Pipelayer's backup person, coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rock slinger; Rotary scarifier or multiple head concrete chipping scarifier; Steel headerboard and guideline setter; Tamper, Barko, Wacker and similar type; Trenching machine, hand-propelled

GROUP 4: Asphalt raker, lute person, ironer, asphalt dump person, and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), grinder or sander; Concrete saw person, cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Head rock slinger; Laborer, asphalt-rubber distributor boot person; Laser beam in connection with laborers' work; Oversize concrete vibrator operator, 70 lbs. and over; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid gas, air, or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No-joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzle person), water blasting, Porta Shot-Blast

GROUP 5: Blaster powder, all work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Driller: All power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power; Toxic waste removal

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Batch plant laborer; Bull gang mucker, track person; Changehouse person; Concrete crew, including rodder and spreader;

Dump person; Dump person (outside); Swamper (brake person and switch person on tunnel work); Tunnel materials handling person
 GROUP 2: Chucktender, cabletender; Loading and unloading agitator cars; Nipper; Pot tender, using mastic or other materials (for example, but not by way of limitation, shotcrete, etc.); Vibrator person, jack hammer, pneumatic tools (except driller)

GROUP 3: Blaster, driller, powder person; Chemical grout jet person; Cherry picker person; Grout gun person; Grout mixer person; Grout pump person; Jackleg miner; Jumbo person; Kemper and other pneumatic concrete placer operator; Miner, tunnel (hand or machine); Nozzle person; Operating of troweling and/or grouting machines; Powder person (primer house); Primer person; Sandblaster; Shotcrete person; Steel form raiser and setter; Timber person, retimber person, wood or steel; Tunnel Concrete finisher

GROUP 4: Diamond driller; Sandblaster; Shaft and raise work
 GUNITE LABORER CLASSIFICATIONS

GROUP 1: Nozzle person and rod person

GROUP 2: Gun person

GROUP 3: Rebound person

 LABO0300A 08/01/2001

	Rates	Fringes
PLASTERER TENDER	22.30	9.62
PLASTER CLEANUUP LABORER	19.75	9.62

 LABO0882B 01/01/2001

	Rates	Fringes
ASBESTOS REMOVAL LABORER	20.12	7.50

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos-containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

 * LABO1184A 07/01/2001

	Rates	Fringes
LABORERS - STRIPING:		
GROUP 1	20.24	7.97
GROUP 2	20.94	7.97
GROUP 3	23.01	7.97
GROUP 4	24.66	7.97

LABORERS - STRIPING CLASSIFICATIONS

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and

traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper
 GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

 PAIN0036A 07/01/2001

	Rates	Fringes
PAINTER (includes lead abatement):		
Work on service stations and and car washes; Small new commercial work (defined as construction up to and including 3 stories in height, such as small shopping centers, small stores, small office buildings and small food establishments); Small new industrial work (defined as light metal buildings, small warehouses, small storage facilities and tilt-up buildings); Repaint work (defined as repaint of any structure with the exception of work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities); Tenant improvement work (defined as tenant improvement work not included in conjunction with the construction of the building, and all repainting of tenant improvement projects	21.25	5.63
All other work	24.52	5.63

 PAIN0036H 10/01/2001

	Rates	Fringes
DRYWALL FINISHERS	25.33	7.93

 * PAIN0036R 06/01/2002

	Rates	Fringes
GLAZIERS	29.20	8.45

FOOTNOTE: Additional \$1.25 per hour for work in a condo,
 from the third (3rd) floor and up
 Additional \$1.25 per hour for work on the outside
 of the building from a swing state or any suspended contrivance,
 from the ground up

PAIN1247B 03/01/2002	Rates	Fringes
SOFT FLOOR LAYER	25.95	6.22

PLAS0200I 08/01/2001	Rates	Fringes
PLASTERERS	28.66	3.80

* PLAS0500B 07/01/2001	Rates	Fringes
Cement Mason; curb and gutter machine; Clary and similar type of screed operator (cement only); grinding machine (all types); Jackson vibratory, Texas screed and similar type screed operator; scoring machine operator	20.47	9.45
Cement mason (magnesite, magnesite - terrazzo and mastic composition, epoxy, urethanes and exotic coatings, Dex-O-TEX)	20.60	9.45
Cement mason, floating and troweling machine operator	22.31	11.45
All other work:		
Cement mason; curb and gutter machine operator; Clary and similar type of screed operator (cement only); grinding machine (all types); Jackson vibratory, Texas screed and similar type screed operator; scoring machine operator	22.31	11.45
Cement mason (magnesite, magnesite - terrazzo and mastic composition, epoxy, urethanes and exotic coatings, Dex-O-TEX)	22.43	11.45
Cement Mason - floating and troweling machine operator	22.56	11.45

FOOTNOTE:
 Work on a swinging stage, bosun chair, or suspended scaffold, whether swinging or rigid, above or below ground: \$0.25 per hour additional.

PLUM0016A 07/01/2001	Rates	Fringes
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PLUMBER & PIPEFITTER:

SEWER AND STORM DRAIN WORK	17.83	10.88
REPAIR	25.46	11.32
ALL OTHER WORK	26.33	11.88

 PLUM0250B 09/01/2001

	Rates	Fringes
REFRIGERATION & AIR CONDITIONING FITTER	32.60	9.90

 PLUM0345A 07/01/2001

	Rates	Fringes
LANDSCAPE & IRRIGATION FITTER	20.38	11.10

 ROOF0036B 09/01/2001

	Rates	Fringes
ROOFER	24.77	5.40

Duties limited to the following: Roof removal of any type of roofing or roofing material; or spudding, or sweeping; and/or clean-up; and/or preload in, or in preparing the roof for application of roofing, damp and/or waterproofing materials

PREPARER	16.24	1.00
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FOOTNOTE: Pitch premium: Work on which employees are exposed to pitch fumes or required to handle pitch, pitch base or pitch impregnated products, or any material containing coal tar pitch, the entire roofing crew shall receive \$1.75 per hour "pitch premium" pay.

 SFCA0669H 04/01/2002

	Rates	Fringes
DOES NOT INCLUDE SAN CLEMENTE ISLAND, THE CITY OF SANTA ANA, AND THAT PART OF ORANGE COUNTY WITHIN 25 MILES OF THE CITY LIMITS OF LOS ANGELES:		
SPRINKLER FITTER (FIRE)	28.75	6.05

 SFCA0709C 09/01/2001

	Rates	Fringes
SAN CLEMENTE ISLAND, THE CITY OF SANTA ANA, AND THAT PART OF ORANGE COUNTY WITHIN 25 MILES BEYOND THE CITY LIMITS OF LOS ANGELES:		
SPRINKLER FITTER (FIRE)	31.58	10.95

 SHEE0102G 02/01/2001

	Rates	Fringes
INDUSTRIAL Work on all air pollution control systems, noise abatement panels, blow pipe, air-veyor systems, dust collecting, baghouses, heating, air conditioning, and ventilating (other than creature comfort) and all other industrial		

work, including metal insulated
ceilings

SHEETMETAL WORKER	24.91	13.62
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* SHEE0102H 07/01/2001

	Rates	Fringes
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COMMERCIAL:

Work on all commercial HVAC for
creature comfort and computers
clean rooms, architectural metals,
metal roofing and lagging, over
insulation

SHEET METAL WORKER	28.95	10.57
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TEAM0011E 07/01/2001

	Rates	Fringes
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TRUCK DRIVERS:

GROUP 1	21.44	12.39
GROUP 2	21.59	12.39
GROUP 3	21.72	12.39
GROUP 4	21.91	12.39
GROUP 5	21.85	12.39
GROUP 6	21.97	12.39
GROUP 7	22.22	12.39
GROUP 8	22.47	12.39
GROUP 9	22.67	12.39
GROUP 10	22.97	12.39
GROUP 11	23.47	12.39

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Truck driver

GROUP 2: Driver of vehicle or combination of vehicles - 2
axles; Traffic control pilot car excluding moving heavy equipment permit load;
Truck-mounted broom

GROUP 3: Driver of vehicle or combination of vehicles - 3
axles; Boot person; Cement mason distribution truck; Fuel truck
driver; Water truck - 2 axle; Dump truck, less than 16 yds. water
level; Erosion control driver

GROUP 4: Driver of transit mix truck, under 3 yds.; Dumpcrete
truck, less than 6-1/2 yds. water level

GROUP 5: Water truck, 3 or more axles; Truck greaser and tire
person (\$0.50 additional for tire person); Pipeline and utility
working truck driver, including winch truck and plastic fusion,
limited to pipeline and utility work; Slurry truck driver

GROUP 6: Transit mix truck, 3 yds. or more; Dumpcrete truck,
6-1/2 yds. water level and over; Vehicle or combination of
vehicles - 4 or more axle; Oil spreader truck; Dump truck, 16
yds. to 25 yds. water level

GROUP 7: A Frame, Swedish crane or similar; Forklift driver;
Ross carrier driver

GROUP 8: Dump truck, 25 yds. to 49 yds. water level; Truck
repair person; Water pull - single engine; Welder

GROUP 9: Truck repair person/welder; Low bed driver, 9 axles
or over

GROUP 10: Dump truck - 50 yds. or more water level; Water pull
- single engine with attachment

GROUP 11: Water pull - twin engine; Water pull - twin engine
with attachments; Winch truck driver - \$1.25 additional when

operating winch or similar special attachments

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.
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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(v)).

In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.

Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.
END OF GENERAL DECISION

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SECTION 01201

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SECTION 01201

GENERAL REQUIREMENTS

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.

ASME INTERNATIONAL (ASME)

- ASME B18.2.1 (1996) Square and Hex Bolts and Screws
(Inch Series)
- ASME B18.2.2 (1987; R 1993) Square and Hex Nuts (Inch
Series)

COMMERCIAL ITEM DESCRIPTIONS (CID)

- CID A-A-2246 (Rev B) Paint, Latex
- CID A-A-2336 (Rev A) Primer Coating (Alkyd, Exterior
Wood, White and Tints)

DEPARTMENT OF COMMERCE (DOC)

- DOC PS 1 (1996) Voluntary Product Standard -
Construction and Industrial Plywood

CORPS OF ENGINEERS (COE)

- COE EM 385-1-1 (1996) Safety and Health Requirements
Manual

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

- NIST PS 1 (1995) Construction and Industrial Plywood
- NIST PS 20 (1994; Addenda Jan. 1997) American
Softwood Lumber Standards

Federal Specifications (FS)

- FS FF-B-575 (Rev C) Bolts, Hexagon and Square
- FS FF-N-105 (Rev B; Int Am 4) Nails, Brads, Staples
and Spikes: Wire, Cut and Wrought

FS FF-N-836 (Rev D; Am 2) Nut: Square, Hexagon, Cap,
Slotted, Castle, Knurled, Welding and
Single Ball Seat

FS MM-L-751 (Rev H) Lumber; Softwood

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH REGULATIONS

Title 8 Regulations California Occupational Safety and Health
Regulations

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-07 Certificates

Site-specific Safety and Health Plan; G, RE.

Pursuant to COE EM 385-1-1 the contractor shall submit a Site-specific Safety and Health Plan.

Activity Hazards Safety Analysis; G RE

Safety analysis of each major phase of work prior to entering that phase of activity. The analysis shall include major or high risk hazards, as well as commonly recurring deficiencies that might possibly be encountered for that operation, and shall identify proposed methods and techniques of accomplishing each phase in a safe manner.

1.3 PROJECT FACILITIES

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

1.3.1 Construction Signs

The signs shall include the following:

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

1.3.2 Bulletin Board

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

1.3.3 Sanitary Facilities

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

PART 2 PRODUCTS

2.1 CONSTRUCTION SIGNS

2.1.1 Materials

2.1.1.1 Lumber

Lumber shall conform to FS MM-L-751, and NIST PS 20, and shall be seasoned Douglas Fir, S4S, Grade D or better except that posts, braces and spacers shall be construction Grade (WCLB).

2.1.1.2 Plywood

Plywood shall conform to NIST PS 1, and DOC PS 1, grade A-C, Group 1, exterior type.

2.1.1.3 Bolts, Nuts and Nails

Bolts shall conform to ASME B18.2.1, and FS FF-B-575, nuts shall conform to ASME B18.2.2, and FS FF-N-836 and nails shall conform to FS FF-N-105.

2.1.1.4 Paints and Oils

Paints shall conform to CID A-A-2336 for primer and CID A-A-2246 for finish paint and lettering.

PART 3 EXECUTION

3.1 CONSTRUCTION OF SIGNS

3.1.1 Project and Hard Hat Signs

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

3.1.2 Warning Signs

Warning signs shall be constructed of plywood not less than one-half inch (1/2") thick and shall be securely bolted to the supports with the bottom of the sign face three feet (3') above the ground. The sign face shall be two feet (2') by four feet (4'), all letters shall be four inches (4") in height, and the wording shall be: "WARNING: OVERHEAD TRANSMISSION LINES."

3.2 PAINTING SIGNS

All exposed surfaces and edges of plywood shall be given one coat of

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

3.3 PROJECT ENGINEER'S OFFICE

a. The Contractor shall provide office space in contractor's trailer and provide the use of a telephone, fax, and copier machines. The office space shall be able to accomodate a desk and or table with four to six chairs. The contractor shall ensure that the trailer is adequately heated, well lighted, suitably ventilated and cooled. An adequate supply of cooled drinking water shall be furnished and maintained. The office trailer shall be cleaned (janitorial service) and all trash removed at least once a week by the Contractor. All costs shall be borne by the Contractor.

b. Sewer, water, and electrical service shall be provided and maintained. The monthly cost for sewer, water, and electrical usage will be the responsibility of the Contractor.

c. The Contractor shall also provide security lighting and a fenced parking area.

d. Contractor shall provide computer software (3.5" floppy disc size) to the Contracting Officer for the type of scheduling system to be used and quantity/fill programs for tracking or estimating bid quantities during construction. Scheduling software must be capable of downloading completely to the COE Standard Data Exchange Format. The Contractor shall utilize a hand held radio system for communication between the Contractor's quality control representative and the Government's quality assurance representative.

3.4 BULLETIN BOARD

a. Contractor shall provide a weatherproof glass-covered bulletin board not less than forty-eight inches (48") wide and thirty-six inches (36") high in size with hinged glass door for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer. The bulletin board shall be located adjacent to or mounted on the Project Engineer's Office in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer. Legible copies of the aforementioned data shall be displayed until work is completed. Upon completion of work the bulletin board shall be removed by and remain the property of the Contractor.

b. If adjacent to the office, the bulletin board shall be securely mounted on no less than two (2) posts. Bulletin board and posts shall be painted or have other approved factory finish.

3.5 MAINTENANCE AND DISPOSAL OF PROJECT FACILITIES

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

3.6 SCRAP MATERIAL

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

3.7 ARCHAEOLOGICAL FINDINGS DURING CONSTRUCTION

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

3.8 PROTECTION OF EXISTING WORK

All channel Side slopes shall be protected by either the existing, pre-construction slope protection or the Santa Ana River project design slope protection.

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

3.9 PUBLIC UTILITIES, NOTICES, AND RESTRICTIONS

3.9.1 General

The approximate location of all railroads, pipelines, power and communication lines, and other utilities known to exist within the limits of the work are indicated on the drawings. The sizes, locations, and names of owners of such utilities are given from available information, but their accuracy is not guaranteed. Except as otherwise indicated on the drawings, all existing utilities will be left in place and the Contractor shall

conduct his operations in such a manner that the utilities will be protected from damage at all times, or arrangements shall be made by the Contractor for their relocation at the Contractor's own expense. The Contractor shall be responsible for any damage to utilities known to exist and shall reimburse the owners for such damage caused by his operations.

3.9.2 Relocation or Removal

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

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

3.9.3 Utilities Not Shown

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

3.9.4 Coordination

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

3.9.5 Notices

3.9.5.1 Utilities To be Relocated or Protected

Unless otherwise specified, the Contractor shall notify the Contracting Officer, in writing, 14 calendar days prior to starting work on any utility to be relocated or protected. On each relocation, notification shall include dates on which the Contractor plans excavation, by-pass work, removal work and/or installation work, as applicable. The Contractor shall also notify the following representatives of utility owners not less than 7 days prior to the start of work in the vicinity of their respective utilities.

County Sanitation District of Orange County (CSDOC)
10844 Ellis Avenue

Fountain Valley, CA 92708

Contact: Mr. Charles Windsor
714-962-2411 x5052
714-962-2411 x220 (Saturday/Emergency)

Orange County Public Facilities and Resources Department (PFRD)
1152 East Fruit Street
Santa Ana, CA 92701
Contact: Mr. David Marshall, Manager Construction Division
714-567-7838

Orange County Water District
10500 Ellis Avenue
Fountain Valley, CA 92728
Contact: Mr. Steve Conklin
714-378-3211
714-378-3200 (Saturday/Emergency)

Southern California Gas Company
ML 8286 Box 3249
Los Angeles, CA 90051-1249
Contact: Mr. Larry Jacquez
213-689-4169
213-881-8113 (Saturday/Emergency)

Southern California Edison Company - Central Orange County
1241 South Grand
Santa Ana, CA 92705
Contact: Mr. Roger Bailes
714-973-5449

Southern California Edison Company - Orange Coast
7333 Bolsa
Westminster, CA 92683
Contact: Mr. Jim Charlesworth
714-895-0363

Caltrans
Resident Engineer
Contact: Mr. Bill Decker
714-261-2381 (office)
714-645-1407 (field)

Pacific Bell
3939 East Coronado
Anaheim, CA 92807
Contact: Mr. Ian MacInnes
714-666-5715

City of Anaheim
200 S. Anaheim Blvd.
Anaheim, CA 92805
Public Works Department

714-765-5700 Gary Johnson

City of Yorba Linda
4845 Casa Loma Ave.
Yorba Linda, CA 92886
714-961-7170 Jim Smith

Paragon Cable TV
7441 Chapman Avenue
Garden Grove, CA 92641
714-895-6886 x216
714-373-3412 (Saturday)

3.9.5.2 Bench Marks and R/W Markers

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

3.9.5.3 Personal Clothing Standards

Each employee shall be required to wear clothing suitable for the weather and job conditions of the work. At a minimum, the following personal clothing requirements shall be enforced:

- a. Short sleeve shirts.
- b. Long trousers.
- c. Leather work shoes or other appropriate protective shoes or boots. Canvas shoes, tennis or deck shoes are not acceptable.

3.9.5.4 Spill Reporting

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

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

g. Disposal location of spill, leak or unauthorized release residue.

3.9.6 Restrictions

3.9.6.1 Other Agency Representatives

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

3.9.6.2 Traffic Control Plan

The Contractor shall develop a Traffic Control Plan and obtain an approval from the Orange County Department of Public Works prior to construction. The plan shall include details of truck haul routes.

3.9.6.3 Existing Roads

The construction schedule shall be prepared giving full consideration to maintaining traffic on existing roads. Additional work on the existing roads may be performed by others during the life of this contract.

3.9.6.4 Access and Haul Roads

Access and haul roads shall be proposed so that use of existing residential streets are minimized.

3.9.6.5 Public and Private Roads

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

3.9.6.6 Maintenance of Roads

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

3.9.6.7 Traffic Safety

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

3.9.6.8 Fill Material

Fill Material for use on the project may be obtained from any source within the excavation limits, or stockpiles, that are within the project boundaries and are not designated for other use. The use of any such source shall be subject to approval by the Contracting Officer.

3.9.6.9 Cooperation with Others

The Contractor shall coordinate his activities and cooperate with other contractors as to not delay or interfere with their work.

3.9.7 Working Hours

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

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

Saturday 8 a.m. to 7 p.m.

Access to the job site will be allowed thirty (30) minutes prior to starting time unless otherwise approved by the Contracting Officer. No work will be permitted on Sundays or Federal Holidays.

Disposal area(s) and haul route(s) utilized by the Contractor may require restricted hauling hours. The Contractor is notified that hauling or disposal activities may be restricted to normal business hours (7 a.m. to 4 p.m. in the event that such operations are considered to be disruptive to existing neighborhood safety and noise conditions. In the event that such a situation develops, the Contracting Officer shall notify the Contractor of restrictive hauling and/or disposal times. The Contractor shall develop their schedule for construction so that restrictive hauling times can be absorbed without extending the overall contract completion period.

3.9.8 Water Quality

Water utilized for construction purposes (ie: dust control, road cleaning, and the like), other than for irrigation of plant material, shall be potable water and non-toxic to plant life.

The Contractor shall be responsible for obtaining water for construction and maintenance purposes. The Contractor shall be responsible for coordination and obtaining approvals from the local water provider for the project.

3.9.9 Dust Control

The Contractor shall provide an acceptable plan for preventing the generation of dust due to construction operations in construction zones, along haul routes, in equipment parking areas, and in waste areas. This plan may consist of water sprinkling or an equivalent service.

3.9.10 Identification of Vehicles

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

3.9.11 Construction Method Observation

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

3.9.12 Contractor's Equipment

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

3.10 PUBLIC SAFETY

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

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

3.11 OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) STANDARDS

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

3.11.1 Accident Reporting

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

3.12 PERMITS

3.12.1 General

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

3.12.2 Recreation Trails (APP)

a. In conformance with the County of Orange's Public Property Encroachment Permit the Contractor shall maintain all recreation bicycle trails within the project area free from dirt, sand, dust, and construction debris to the satisfaction of the Contracting Officer.

b. All recreation trails within the project (bicycle as well as riding and pedestrian trails) shall remain open and unobstructed at all times during construction. Contractor shall submit to Contracting Officer and obtain written approval of any temporary detour of the trails. Any approved detour shall be accomplished within the Santa Ana River right-of-way.

3.12.3 Public Property Permit

A public property permit from the Orange County Public Facilities and Resources Department (PFRD) has been issued. The OCEMA point of contact is Ms. Patricia Bigger at 714-834-5714. The Contractor shall comply with all permit requirements. A copy of this permit shall be provide to the contractor prior to receipt of Notice to Proceed.

3.12.4 National Pollutant Discharge Elimination System (NPDES) Permit

The Contractor shall obtain a NPDES Storm Water Discharge Permit from the California State Water Resources Control Board, Division of Water Quality. Each covered construction activity must obtain coverage under this permit by submitting a Notice of Intent (NOI) to the State Board. Notice of Intent (NOI) requires that the contractor shall prepare a Storm Water Pollution Protection Plan (SWPPP) and the contractor shall pay a fee to

file the NOI. The NOI must be sent to:

State Water Resources Control Board
Division of Water Quality

ATTN: Storm Water Permit Unit
P. O. Box 1977
Sacramento, CA 95812-1977

3.13 CONTRACTOR SAFETY PERSONNEL REQUIREMENT

3.13.1 General

The Corps of Engineers Safety and Health Requirements Manual, COE EM 385-1-1, (see CONTRACT CLAUSES) and the Occupational Safety and Health Act (OSHA) Standards for Construction (Title 29, Code of Federal Regulations Parts 1910 and 1926 as revised from time to time) and Cal/OSHA Title 8 Regulations are applicable to this contract. In case of conflict, the most stringent requirement of the standards is applicable. Pursuant to COE EM 385-1-1, the Contractor shall submit a Site-specific Safety and Health Plan. Prior to commencing construction activities or delivery of materials to the site, the Contractor shall submit a Site-specific Safety and Health Plan for review and approval by the Contracting Officer.

3.13.1.1 Activity Hazard Analysis

Based on the construction schedule, the Contractor shall submit a Activity Hazards Safety Analysis of each major phase of work prior to entering that phase of activity. The analysis shall include major or high risk hazards, as well as commonly recurring deficiencies that might possibly be encountered for that operation, and shall identify proposed methods and techniques of accomplishing each phase in a safe manner. The Prime Contractor's superintendent shall take active participation in the Activity Hazards Analysis, including the subcontractors' work. Prior to start of actual work a meeting shall be held with Prime Contractor, Government, and affected subcontractor to review the Activity Hazard Analysis. In addition, job site meetings shall be held to indoctrinate foreman and workers on details of this analysis.

3.13.1.2 Violations

If recurring violations and/or gross violation indicate that the safety performance is unsatisfactory, corrective action shall be taken as directed, and at the discretion of the Contracting Officer's Representative the retention or some part thereof will be withheld from the progress payment until corrective action has been completed.

3.14 NOTICE OF PARTNERSHIP

The Government intends to encourage the foundation of a cohesive partnership with the Contractor and its subcontractors. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are effective and efficient contract performance and intended to achieve completion within

budget, on schedule, and in accordance with plans and specifications. This partnership would be bilateral in makeup, and participation will be totally voluntary. Any cost associated with effectuating this partnership will be agreed to by both parties and will be shared equally with no change in contract price. To implement this partnership initiative it is anticipated that within 60 days of Notice to Proceed the Contractor's on-site project manager and the Government's Resident Engineer would attend a two day partnership development seminar/team building workshop together with the Contractor's key on-site staff and key Government personnel. Follow-up workshop of 1 to 2 days duration would be held periodically throughout the duration of the contract as agreed to by the Contractor and Government.

3.15 REQUIRED INSURANCE

3.15.1 General

- a. Contractor shall maintain insurance in full force and effect throughout the term of this contract. The policy or policies of insurance maintained by Contractor shall provide the limits and coverages as set forth herein below.
- b. Insurance shall be in force the first day of the term of this contract. The Contractor shall cause its insurance carrier(s) to furnish the U. S. Army Corps of Engineers and the Orange County Flood Control District, by direct mail, Certificates of Insurance showing that such insurance is in full force and effect.
- c. Each insurance policy required by this Contract shall contain the following clauses:
 - (1) "This insurance shall not be canceled, limited in scope of coverage or nonrenewed until after thirty (30) calendar days written notice has been given to the U. S. Corps of Engineers, Los Angeles District and the County of Orange Public Facilities and Resource Department, ATTN: H.I. Nakasane, 300 North Flower, P. O. Box 4048, Santa Ana, California 92702."
 - (2) "All rights of subrogation are hereby waived against the U. S. Army Corps of Engineers, the County of Orange, Orange County Flood Control District, Orange County Transportation Authority, and the members of the Board of Supervisors and elective or appointive officers or employees, when acting within the scope of their employment or appointment, and County Districts and their Board or Commissions which are governed by the County Board of Supervisors."
 - (3) "As respects operation of the named insured performed on behalf of the Government, the following are added as additional insured: County of Orange, Orange County Flood Control District, City of Anaheim, City of Yorba Linda."
 - (4) "It is agreed that any insurance maintained by the County of Orange and Orange County Flood Control District will apply in excess of, and not contribute with, insurance provided by this

policy."

d. The procuring of such required policies of insurance shall not be construed to limit Contractor's liability hereunder not to fulfill the indemnification provisions and requirements of this Contract.

3.15.2 Liability Insurance

3.15.2.1 Comprehensive General Liability

Comprehensive General Liability including Completed Operations, Products, Broad Form Property Damage Endorsement, Full Blanket Contractual Coverage, and Comprehensive Automobile Liability shall have a minimum limit of \$10,000,000 combined single limit per occurrence.

3.15.2.2 Worker's Compensation

Worker's Compensation shall be "statutory".

3.15.2.3 Exclusions or Endorsements

Any liability insurance required by this Contract shall not contain exclusions or endorsements which eliminate or limit coverage for the following:

- a. Claims of liability for bodily injury or property damage caused by, resulting from, attributable or contributed to, or aggravated by the subsidence or other movement of soils or land as a result of landslide, consolidation, expansion, creep, shifting, sinking, or mud flow.
- b. Claims of liability for bodily injury or property damage caused by, resulting from, attributable or contributed to, or aggravated by the actual, alleged, or threatened discharge, dispersal, release, or escape of any pollutants, as defined by law.
- c. Completed Operations coverage.
- d. Products coverage.
- e. Broad Form Property Damage coverage.
- f. Blanket Contractual coverage.

3.15.3 Worker's Compensation

a. Each liability and worker's compensation insurance policy required by this contract shall contain clause numbers as stated herein above and the following clause:

"It is agreed that any insurance maintained by the County of Orange, Orange County Flood Control District, and Orange County Transportation Authority will apply in excess of, and not contribute with, insurance provided by this policy."

b. The procuring of such required policies of insurance shall not be construed to limit the Contractor's liability hereunder not to fulfill the indemnification provisions and requirements of this Contract.

3.15.4 Indemnification

The Contractor shall indemnify and hold the Government, County of Orange, and Orange County Flood Control District, their elected and appointed officials, officers, agents, employees, and independent contractors free and harmless from any liability whatsoever, based or asserted upon any act or omission of the Contractor, its elected and appointed officials, officers, agents, employees, subcontractors, and independent contractors, for property damage, bodily injury, or death (Contractor's employees included) or any other element of damage of any kind or nature, relating or in anyway connected with or arising from its responsibilities in connection therewith of the Contractor's performance under the terms of this Contract.

The Contractor shall defend, at its expense, including without limitation, attorney fees, expert fees and investigation expenses, the Government, county of Orange, and Orange County Flood control District, their elected and appointed officials, officers, agents, employees and independent contractors in any legal action based upon such alleged acts of omission. The obligations to indemnify and hold the Government, County of Orange, and Orange County Flood Control District, their elected and appointed officials, officers, agents, employees, and independent contractors free and harmless herein shall survive until any and all claims, actions, and causes of action with respect to any and all alleged acts or omissions are fully and finally barred by the applicable status of limitations.

3.16 AS-BUILT DRAWINGS

3.16.1 General

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

- a. The location and description of any utility lines or other installations of any kind or description known to exist within the construction area. The location includes dimensions to permanent features.
- b. The location and dimensions of any changes within the building or structure.

- c. Correct grade or alignment of roads, structures, or utilities if any changes were made from contract drawings.
- d. Correct elevations if changes were made in site grading.
- e. Changes in details of design or additional information obtained from contract drawings specified to be prepared and/or furnished by the Contractor including but not limited to fabrication, erection, installation plans and placing detail, pipe sizes, insulation material, dimensions or equipment, and the like.
- f. The topography and grades of all drainage installed or affected as part of the project construction.
- g. All changes or modifications which results from the final inspection.

3.16.2 Preliminary As-Builds Drawings

Contractor shall maintain one (1) set of full size, blue-line prints marked up in red to show the as-built conditions. This set of as-built prints shall be kept current and available at the job site at all times. All changes from what is shown on the contract drawings, whether it be from changes requested by the Contracting Officer or resulting from 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 marked-up as-built prints will be jointly inspected for accuracy and completeness by the Contracting Officer and Contractor prior to submission of each monthly pay estimate. Information to be included on these preliminary drawings shall conform to the requirements as stated above. Any and all as-built modifications shall be reflected on all sheets affected by the modifications.

3.16.3 Options

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

3.16.4 Computer Drawing Files (CADD)

- a. Contractor shall develop the final computer file as-built drawings from the approved working drawings. The computer files shall be delivered in DGN format usable in MicroStation, version 5.x, a computer aided design and drafting (CADD) program. Drawings shall be prepared in general accordance with the Los Angeles District manual, "Standards Manual for U. S. Army Corps Computer-Aided Design and Drafting (CADD) Systems". Copies of these manuals can be obtained by contracting Mr. Thomas Luzano, Los Angeles District USACOE, Civil Design Section A at 213-452-3651.
- b. Government will provide all the computerized drawing files, along with a listing and description of the file contents, used to produce

plans to advertise this contract. Contractor shall be responsible for downloading the computer files via one of the following methods:

(1) Receiving data via the Corps' file server. A formal request for the project files shall be submitted two (2) weeks in advance of the anticipated downloading. The project files, in MicroStation (CADD) binary format, will then be stored on the file server for a period of two (2) weeks for the Contractor to retrieve via modem. Contractor will be provided all relevant information regarding access to the server via modem or Internet address.

(2) Receiving data through tape media. The Government will provide all project drawing files on a 8-mm data cartridge. The data can only be stored on this tape using UNIX format backup commands.

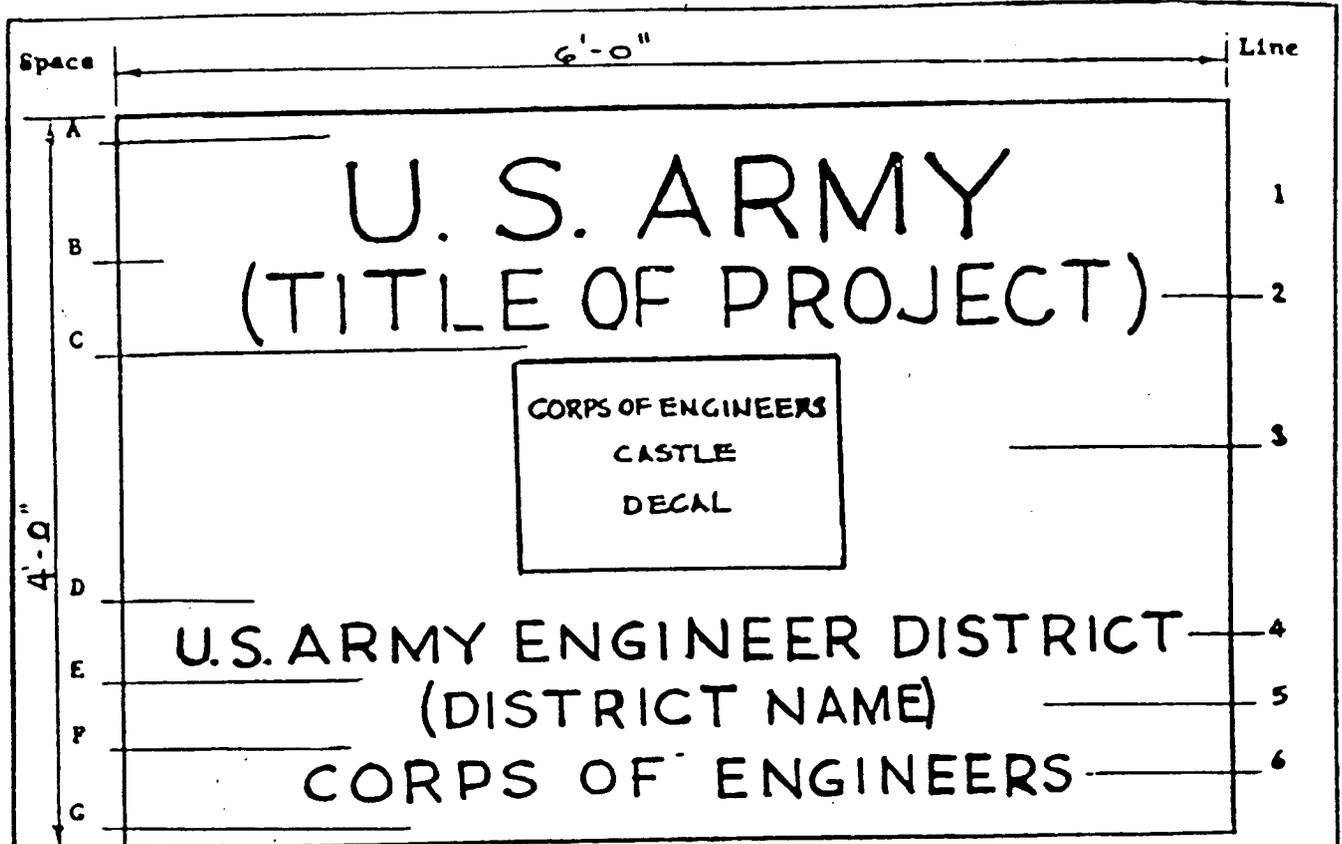
3.16.5 Submittal to Contracting Officer

Not later than two (2) weeks after acceptance of the project by the Government, the Contractor shall deliver to the Contracting Officer three (3) full sets of Blueline Prints marked up to depict as-built conditions. If upon review, the drawings are found to contain errors and/or omissions, they shall be returned to the Contractor for corrections. The Contractor shall complete the corrections and return the drawings to the Contracting Officer within ten (10) calendar days.

3.17 CONTRACTOR'S WORK AND STORAGE AREA

The Contractor shall submit a Work and Storage Areas Plan for approval within 15 days after receipt of Notice to Proceed. Contractor's work and storage areas shall be enclosed by a 6' high chain-link fence. Fence material shall be provided by the Contractor and may be new or used. Upon completion of the work, the fence materials shall become the property of the Contractor and shall be removed from the site.

-- End of Section --



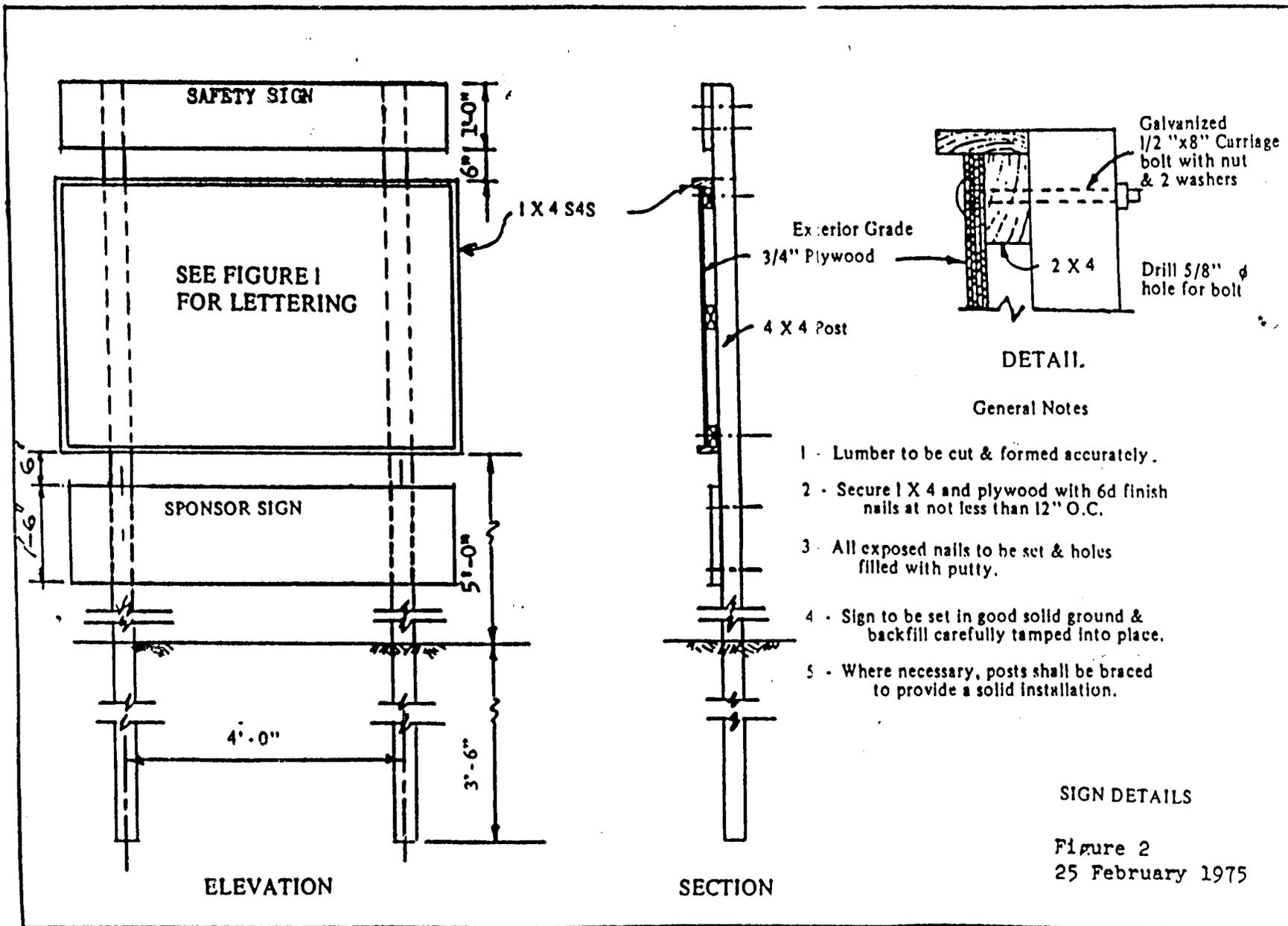
SCHEDULE

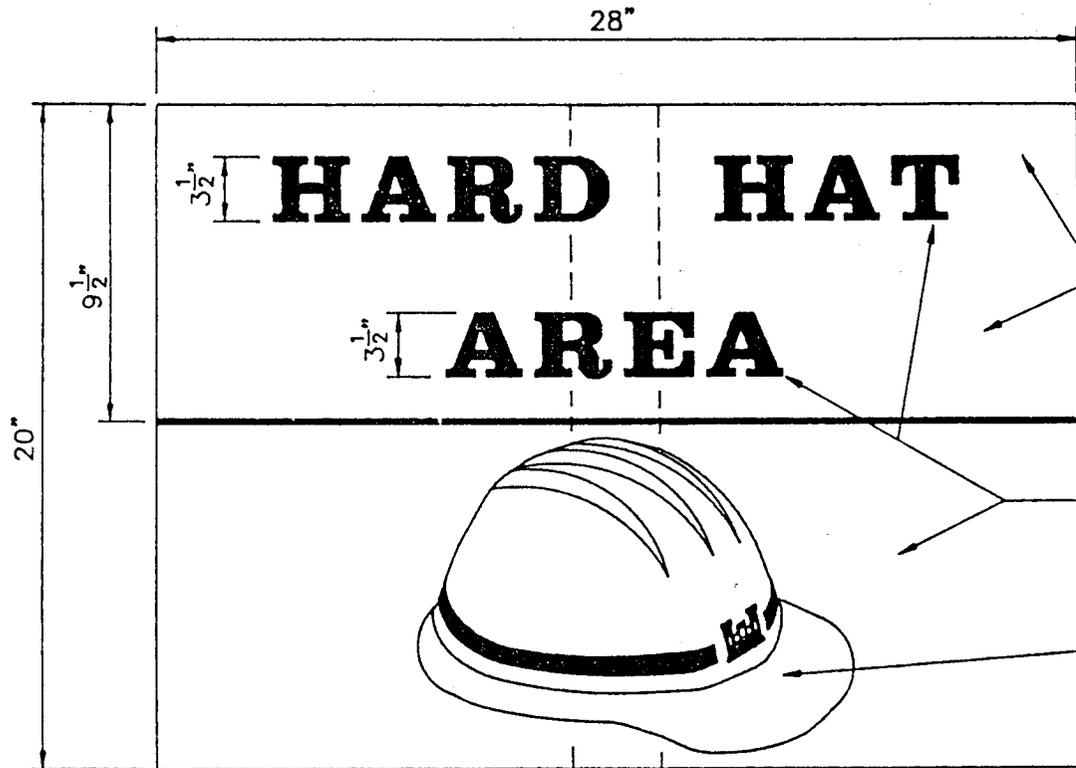
<u>Space</u>	<u>Height</u>	<u>Line</u>	<u>Description</u>	<u>Letter Height</u>	<u>Stroke</u>
A	3"	1	U. S. ARMY	5 1/2"	7/8"
B	2"	2	PROJECT NOMENCLATURE	4"	5/8"
C	2"	3	CORPS OF ENGINEERS CASTLE (DECAL)	1 1/2"	--
D	3"	4	U. S. ARMY ENGINEER DISTRICT	2 3/4"	3/8"
E	2"	5	DISTRICT NAME	2 1/4"	1/4"
F	2"	6	CORPS OF ENGINEERS	2 1/2"	3/8"
G	3"				

Lettering Color -- Black

PROJECT SIGN
(Army-Civil Works)

Figure 1
14 August 1972





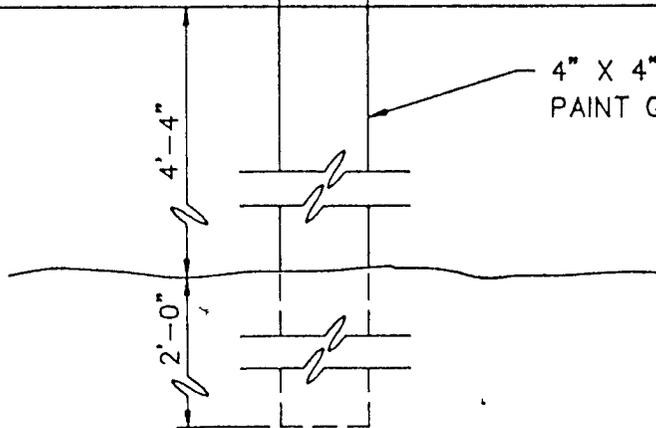
WHITE:
PAINT BACK OF SIGN WHITE

GREEN

HARD HAT DECAL FURNISHED
BY GOVERNMENT



4" X 4" POST
PAINT GREEN



GENERAL NOTES:

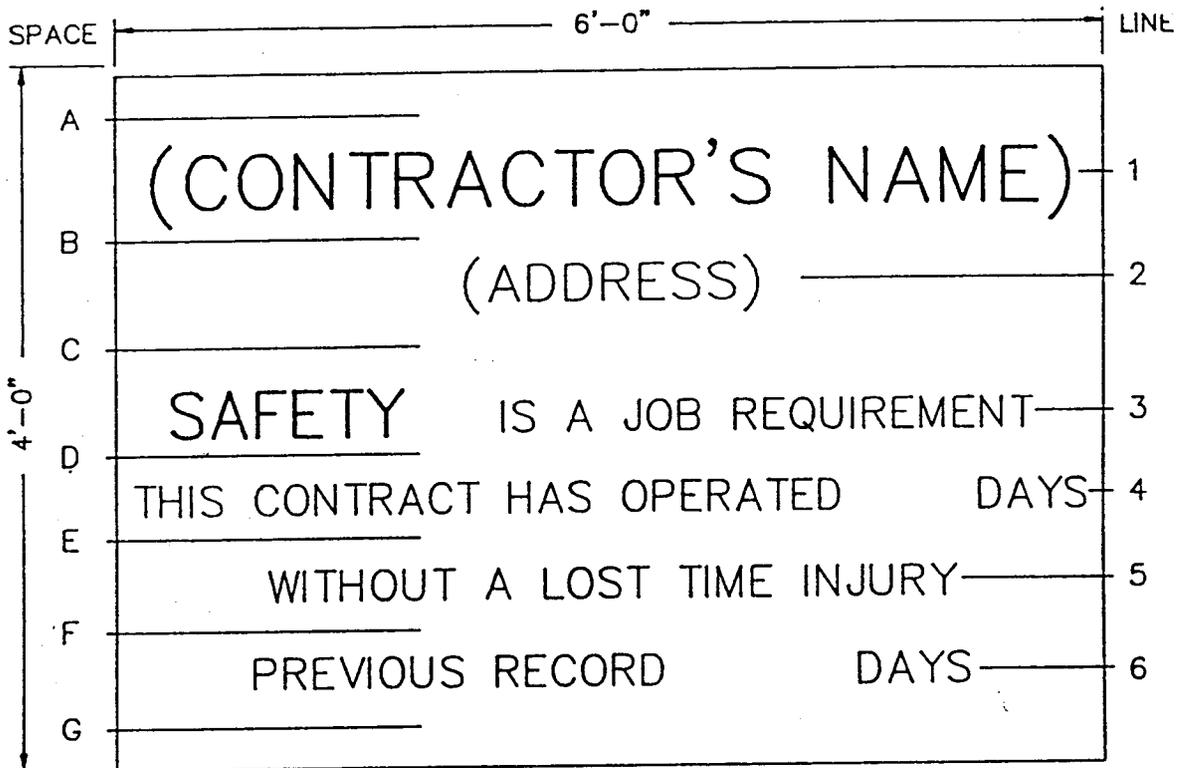
1. Green & White Paint shall be opaque glossy as specified in ANSI Standard Z53.1.
2. Bolt Sign to post w/2 1/2" dia. Carriage Bolts.

STANDARD DETAIL
HARD HAT SIGN

U.S. ARMY ENGINEER DISTRICT
SACRAMENTO

Drawn T. Tufts Not to Scale
Checked R. Simmons NOV. 1987

File No. 80-25-774



SCHEDULE

<u>SPACE</u>	<u>HEIGHT</u>	<u>LINE</u>	<u>DISCRIPTION</u>	<u>LETTER HEIGHT</u>
A	5"	1	CONTRACTOR'S NAME	5"
B	3"	2	ADDRESS	3"
C	6"	3	SAFETY IS A JOB REQUIREMENT	4 1/2" & 3"
D	3"	4	ALL LETTERING	3"
E	3"	5	ALL LETTERING	3"
F	3"	6	ALL LETTERING	3"
G	5"			

NOTE:

LETTERING SHALL BE BLACK No. 27038, FEDERAL STANDARD 595.
SIGN SHALL BE INSTALLED IN THE SAME MANNER
AS THE PROJECT SIGN.

STANDARD DETAIL
SAFETY SIGN
U S ARMY ENGINEER DISTRICT
SACRAMENTO

Drawn T. Tufts Not to Scale
Checked R. Simmons NOV. 1987
File number 80-25-707

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01270A

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PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section Table of Contents --

SECTION 01270A

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 LUMP SUM PAYMENT ITEMS

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

1.1.1 Landscape Stone

1.1.1.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for furnishing, transporting, stockpiling (if applicable), placing, and constructing the landscape stone as specified.

1.1.1.2 Unit of Measure

Unit of measure: lump sum.

1.1.2 Ornamental Stone Features

1.1.2.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for furnishing, transporting, stockpiling (if applicable), placing, and constructing the ornamental stone features as specified.

1.1.2.2 Unit of Measure

Unit of measure: lump sum.

1.1.3 Irrigation System

1.1.3.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for installing the irrigation system for Phase 4 constituting full compensation for the irrigation system beginning at the POC, including main and lateral piping with associated valves, components and fittings, sprinkler heads, automatic controllers, master control valves, valve markers, flow sensors, remote control valves, and electrical wiring from controllers to remote control valves, complete in place. No separate payment will be made for excavation, backfilling, and compaction of pipe trenches. Therefore all costs associated with trenching and monthly electric and water bills shall be included in the applicable contract prices for the work items to which the work applies.

1.1.3.2 Unit of Measure

Unit of measure: lump sum.

1.1.4 Electrical

1.1.4.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for furnishing, transporting, and installing the complete electrical system for Phase 4 constituting full compensation for connection to power source including coordinating with electrical provider, obtaining permits, and paying all fees associated with connections and installation of wiring, meters, and associated components from the power source to the automatic irrigation controllers, as specified.

1.1.4.2 Unit of Measure

Unit of measure: lump sum.

1.1.5 Hydroseed Mix "A"

1.1.5.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for furnishing, transporting, and installing the Hydroseed Mix "A" areas constituting full compensation for mixing and spraying hydromulch, soil preparation and plant establishment, complete. Payment will not include reseeding of areas required as a result of Contractor's negligence or damages caused by Contractor, as specified.

1.1.5.2 Unit of Measure

Unit of measure: lump sum.

1.1.6 Hydroseed Mix "B"

1.1.6.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for furnishing, transporting,

and installing the Hydroseed Mix "B" areas constituting full compensation for mixing and spraying hydromulch, soil preparation and plant establishment, complete. Payment will not include reseeding of areas required as a result of Contractor's negligence or damages caused by Contractor, as specified.

1.1.6.2 Unit of Measure

Unit of measure: lump sum.

1.1.7 Landscaping

1.1.7.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for furnishing, transporting, and installing the landscaping constituting full compensation for obtaining plants, backfilling, soil preparation and plant establishment, as specified.

1.1.7.2 Unit of Measure

Unit of measure: lump sum.

1.1.8 Landscape Stone Removals

1.1.8.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for landscape stone removals south of Talbert Avenue, constituting full compensation for removing, hauling and regrading, complete. D.G. placement is covered under separate work item under this contract.

1.1.8.2 Unit of Measure

Unit of measure: lump sum.

1.1.9 Landscape Plant Removals

1.1.9.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for landscape plant removals south of Talbert Avenue, constituting full compensation for removing designated trees, capping irrigation lines, backfilling plant pits to existing grade and filling voids with removal stone as directed by the contracting officer, complete. Plant replacement is covered under separate work item under this contract.

1.1.9.2 Unit of Measure

Unit of measure: lump sum.

1.1.10 Reach 8 Irrigation System

1.1.10.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for installing the irrigation system at Reach 8 constituting full compensation for the irrigation system beginning at the POC, including pump, main and lateral piping with associated valves, components and fittings, bubbler heads, automatic controllers, master control valves, flow sensors, remote control valves, and all electrical work including wiring from controllers to remote control valves, complete in place. Payment for excavation, backfilling, and compaction of pipe trenches including electric and water bills shall be included in the contract prices for this work items.

1.1.10.2 Unit of Measure

Unit of measure: lump sum.

1.1.11 Reclaimed Water Connection

1.1.11.1 Payment

Payment will be made for costs associated with providing all labor, materials, and equipment for connection to the existing reclaimed water source at Edinger Avenue and bring the pipe line to POC at SAR Station 392+85 including water meter, replace PCC sidewalk in-kind, associated appurtenances including, but not limited to, coordinating with applicable regulatory agencies, and obtaining permits and paying for all fees associated with the connection.

1.1.11.2 Unit of Measure

Unit of measure: lump sum.

1.1.12 As-Built Drawings

1.1.12.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for a complete set of as-built drawings indicating installation of work items under this contract, complete.

1.1.12.2 Unit of Measure

Unit of measure: lump sum.

1.2 UNIT PRICE PAYMENT ITEMS

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

control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items.

1.2.1 Clearing and Grubbing

1.2.1.1 Payment

Payment will be made for costs associated with providing all labor, materials, and equipment for clearing and grubbing operations constituting full compensation for clearing, grubbing, removing, replacing, and restoring work (except work by others) including all existing obstructions and overhanging vegetation within the project right-of-way and construction easements. Except as otherwise specified, payment for work includes applicable earthwork; removal of existing asphaltic concrete pavement, rock and concrete rubble; removal of miscellaneous trash/debris; removal of existing trees, shrubs, ground cover and vines indicated on the drawings to be remove or as directed by the contracting officer including tree trunks; protection, replacement, or restoration of utilities, fences (including post and cable), walls, existing plant material, and features indicated to remain; and disposal of all materials.

1.2.1.2 Unit of Measure

Unit of measure: Acre.

1.2.2 Finished Grading

1.2.2.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for complete finished grading operations constituting full compensation for finished grading, excavation, backfill, and compacting.

1.2.2.2 Unit of Measure

Unit of measure: Acre.

1.2.3 Decomposed Granite

1.2.3.1 Payment

Payment will be made for costs associated with operations necessary for providing all labor, materials, and equipment for furnishing, transporting, and installing the decomposed granite constituting full compensation for soil preparation, weed abatement, soil treatment, complete.

1.2.3.2 Measurement

Quantities of decomposed granite will be computed in cubic yards by the average area method and the planimeter will be considered a precise instrument for measuring plotted cross sections.

1.2.3.3 Unit of Measure

Unit of measure: cubic yards.

1.2.4 Exterior Signage - Type A

1.2.4.1 Payment

Payment will be made for costs associated with providing all labor, materials, and equipment for installing exterior signage - type A constituting full compensation for signs including posts, footings, hardware, complete.

1.2.4.2 Unit of Measure

Unit of measure: each.

1.2.5 Exterior Signage - Type B

1.2.5.1 Payment

Payment will be made for costs associated with providing all labor, materials, and equipment for installing exterior signage - type B constituting full compensation for signs including posts, footings, hardware, complete.

1.2.5.2 Unit of Measure

Unit of measure: each.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01330

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 - 1.2.1 Government Approved
 - 1.2.2 Information Only
- 1.3 APPROVED SUBMITTALS
- 1.3 DISAPPROVED SUBMITTALS
- 1.4 WITHHOLDING OF PAYMENT
- 1.5 GENERAL
- 1.6 SUBMITTAL REGISTER
- 1.7 SCHEDULING
- 1.8 TRANSMITTAL FORM (ENG FORM 4025)
- 1.9 SUBMITTAL PROCEDURES
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PART 2 PRODUCTS (Not Applicable)

PART 3 PRODUCTS (Not Applicable)

-- End of Section Table of Contents --

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUBMITTAL IDENTIFICATION (SD)

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-06 Test Reports

SD-07 Certificates

SD-10 Operation and Maintenance Data

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.

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.

1.3 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.

1.4 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

1.5 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.

1.6 SUBMITTAL REGISTER

At the end of this section is a submittal register showing 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 Government will provide the initial submittal register in electronic format. Thereafter, the Contractor shall maintain a complete list of all submittals, including completion of all data columns. Dates on which submittals are received and returned by the

Government will be included in its export file to the Contractor. The Contractor shall track all submittals.

1.7 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 7 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.

1.8 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor this contract. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

1.9 SUBMITTAL PROCEDURES

Submittals shall be made as follows:

1.9.1 Procedures

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

1.9.2 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.

1.10 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."

1.11 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.

1.12 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.

1.13 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>

PART 2 PRODUCTS (Not Applicable)

PART 3 PRODUCTS (Not Applicable)

-- End of Section --

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION phase 4 landscaping						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 #	G O V T C L A S S I F I C A T I O N	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY				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 C O D E	D A T E O F A C T I O N	D A T E F O R W A R D I N G C O N T R A C T O R	D A T E F O R W A R D I N G O T H E R	D A T E F O R W A R D I N G O T H E R	A C T I O N C O D E			D A T E O F A C T I O N
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
	01201		SD-07 Certificates														
			Site-specific Safety and Health Plan	3.13.1	G RE												
			Activity Hazards Safety Analysis	3.13.1.1	G RE												
	01355A		SD-01 Preconstruction Submittals														
			Environmental Protection Plan	1.7	G RE												
	02230A		SD-03 Product Data														
			Application of Herbicide	3.5.4													
			SD-07 Certificates														
			Herbicide Treatment Plan	3.5.3	G RE												
			Herbicide	2.1													
			Herbicide	3.5.3													
	02316A		SD-06 Test Reports														
			Field Density Tests	3.4.3													
			Testing of Backfill Materials	3.4.2													
	02600		SD-04 Samples														
			Landscape Stone	2.1.7.2	G RE												
			Ornamental Stone Features	2.1.7.2	G RE												
	02722a		SD-06 Test Reports														
			SAMPLING AND TESTING	2.2													
			Sample	2.2.2													
	02770a		SD-03 Product Data														
			Concrete	2.1													
	02811		SD-02 Shop Drawings														
			Sprinkler System	3.1	G RE												
			SD-03 Product Data														

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION

phase 4 landscaping

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION	PARAGRAPH	GOVT CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY				REMARKS		
						SUBMIT	BY	MATERIAL NEEDED BY	ACTION	DATE OF ACTION	DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION		DATE OF ACTION	DATE RCD FRM APPR AUTH
(a)	(b)	(c)	(d)	(e)	(f)												
		02811	Framed Instructions	3.3													
			Field Training	1.3.2													
			Sprinkler System	3.1													
			SD-06 Test Reports														
			Field Tests	3.2													
			SD-07 Certificates														
			Sprinkler System	3.1													
			SD-10 Operation and Maintenance Data														
			Sprinkler System	3.1	G RE												
		02921a	SD-03 Product Data														
			Equipment	3.3.1.1													
			Delivery	1.4.1													
			Topsoil	2.2	G RE												
			Quantity Check	3.4	G RE												
			Seed Establishment Period	3.9	G RE												
			Maintenance Record	3.9.7	G RE												
			Maintenance Plan	3.9.4	G RE												
			Application of Pesticide	3.5	G RE												
			Wood cellulose fiber mulch and tackifier	3.3.2	G RE												
			SD-04 Samples														
			Delivered Topsoil	1.4.1.1	G RE												
			Soil Amendments	2.3	G RE												
			Mulch	3.3.1.1	G RE												
			Mulch	3.9.7	G RE												

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION						CONTRACTOR											
phase 4 landscaping						CONTRACTOR:			CONTRACTOR		APPROVING AUTHORITY						REMARKS
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION	PARAGRAPH	G O V T CLASSIFICATION	SCHEDULE DATES			ACTION								
						APPROVAL NEEDED	MATERIAL NEEDED		DATE OF ACTION	DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION	DATE OF ACTION	DATE RCD FRM APPR AUTH		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		02921a	SD-06 Test Reports														
			Equipment Calibration	3.1.3	G RE												
			Soil Test	3.1.4	G RE												
			SD-07 Certificates														
			Seed	2.1	G RE												
			Topsoil	2.2	G RE												
			pH Adjuster	2.3.1													
			Fertilizer	2.3.2													
			Soil Conditioner	2.3													
			Mulch	3.3.1.1													
			Mulch	3.9.7													
			Pesticide	2.4	G RE												
		02930A	SD-03 Product Data														
			Erosion Control Material	2.4													
			Delivery	1.4.1	G RE												
			Plant Establishment Period	3.9	G RE												
			Maintenance Record	3.9.2.6													
			Application of Pesticide	3.7	G RE												
			SD-06 Test Reports														
			Soil Test	3.1.3.2	G RE												
			SD-07 Certificates														
			Plant Material	2.1													
			Topsoil	2.2	G RE												
			pH Adjuster	2.3.1													
			Fertilizer	2.3.2													
			Organic Material	2.3													

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
phase 4 landscaping

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 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	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 W D T O O T H E R	D A T E F R O M	O T H E R			D A T E O F	D A T E F R O M
		02930A	Soil Conditioner	2.3														
			Mycorrhizal Fungi Inoculum	2.6														
			Pesticide	2.9														
			SD-10 Operation and Maintenance Data															
			Maintenance Instructions	3.9.5														
		10430A	SD-03 Product Data															
			Installation	3.1														
			SD-04 Samples															
			Exterior Signs	3.1														
		16375A	SD-02 Shop Drawings															
			As-Built Drawings	3.5	G RE													
			SD-03 Product Data															
			Nameplates	2.2														
			Material and Equipment	2.1														
			SD-06 Test Reports															
			Field Testing	3.4	G RE													
			SD-07 Certificates															
			Material and Equipment	2.1														

INSTRUCTIONS

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

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

- | | |
|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| A -- Approved as submitted. | E -- Disapproved (See attached). |
| B -- Approved, except as noted on drawings. | F -- Receipt acknowledged. |
| C -- Approved, except as noted on drawings.
Refer to attached sheet resubmission required. | FX -- Receipt acknowledged, does not comply
as noted with contract requirements. |
| D -- Will be returned by separate correspondence. | G -- Other (Specify) |

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

(Reverse of ENG Form 4025-R)

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SECTION 01355A

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 REFERENCES

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

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

40 CFR 152 - 186	Pesticide Programs
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 279	Standards for the Management of Used Oil
49 CFR 171 - 178	Hazardous Materials Regulations

U.S. ARMY CORPS OF ENGINEERS (USACE)

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

1.2.1 Environmental Pollution and Damage

Environmental pollution and damage is 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; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

1.2.2 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and

liquid waste; radiant energy and radioactive material as well as other pollutants.

1.3 GENERAL REQUIREMENTS

The Contractor shall minimize environmental pollution and damage that may occur as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of this contract. The Contractor shall comply with all applicable environmental Federal, State, and local laws and regulations. The Contractor shall be responsible for any delays resulting from failure to comply with environmental laws and regulations.

1.4 SUBCONTRACTORS

The Contractor shall ensure compliance with this section by subcontractors.

1.5 PAYMENT

No separate payment will be made for work covered under this section. The Contractor shall be responsible for payment of fees associated with environmental permits, application, and/or notices obtained by the Contractor. All costs associated with this section shall be included in the contract price. The Contractor shall be responsible for payment of all fines/fees for violation or non-compliance with Federal, State, Regional and local laws and regulations.

1.6 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

Environmental Protection Plan; G RE

The environmental protection plan.

1.7 ENVIRONMENTAL PROTECTION PLAN

Prior to commencing construction activities or delivery of materials to the site, the Contractor shall submit an Environmental Protection Plan for review and approval by the Contracting Officer. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental issues which the Contractor must address during construction. Issues of concern shall be defined within the Environmental Protection Plan as outlined in this section. The Contractor shall address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but which the Contractor

considers necessary, shall be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, the Contractor shall meet with the Contracting Officer for the purpose of discussing the implementation of the initial Environmental Protection Plan; possible subsequent additions and revisions to the plan including any reporting requirements; and methods for administration of the Contractor's Environmental Plans. The Environmental Protection Plan shall be current and maintained onsite by the Contractor.

1.7.1 Compliance

No requirement in this Section shall be construed as relieving the Contractor of any applicable Federal, State, and local environmental protection laws and regulations. During Construction, the Contractor shall be responsible for identifying, implementing, and submitting for approval any additional requirements to be included in the Environmental Protection Plan.

1.7.2 Contents

The environmental protection plan shall include, but shall not be limited to, the following:

- a. Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.
- b. Drawings showing locations of proposed temporary excavations or embankments for haul roads, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on the site.
- c. Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan shall include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff.
- d. The Contractor shall identify any subcontractors responsible for the transportation and disposal of solid waste. Licenses or permits shall be submitted for solid waste disposal sites that are not a commercial operating facility. Evidence of the disposal facility's acceptance of the solid waste shall be required.
- e. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and travel off the project site.
- f. A contaminant prevention plan that: identifies potentially hazardous substances to be used on the job site; identifies the intended actions to prevent introduction of such materials into the air, water, or ground; and details provisions for compliance with Federal, State, and local laws and regulations for storage and handling of these materials. In accordance with EM 385-1-1, a copy of the

Material Safety Data Sheets (MSDS) and the maximum quantity of each hazardous material to be on site at any given time shall be included in the contaminant prevention plan. As new hazardous materials are brought on site or removed from the site, the plan shall be updated.

g. A waste water management plan that identifies the methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines. If a settling/retention pond is required, the plan shall include the design of the pond including drawings, removal plan, and testing requirements for possible pollutants. If land application will be the method of disposal for the waste water, the plan shall include a sketch showing the location for land application along with a description of the pretreatment methods to be implemented. If surface discharge will be the method of disposal, a copy of the permit and associated documents shall be included as an attachment prior to discharging the waste water. If disposal is to a sanitary sewer, the plan shall include documentation that the Waste Water Treatment Plant Operator has approved the flow rate, volume, and type of discharge.

h. A historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on the project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in the area are discovered during construction. The plan shall include methods to assure the protection of known or discovered resources and shall identify lines of communication between Contractor personnel and the Contracting Officer.

i. A pesticide treatment plan shall be included and updated, as information becomes available. The plan shall include: sequence of treatment, dates, times, locations, pesticide trade name, EPA registration numbers, authorized uses, chemical composition, formulation, original and applied concentration, application rates of active ingredient (i.e. pounds of active ingredient applied), equipment used for application and calibration of equipment. The Contractor is responsible for Federal, State, Regional and Local pest management record keeping and reporting requirements.

1.7.3 Appendix

Copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents shall be attached, as an appendix, to the Environmental Protection Plan.

1.8 PROTECTION FEATURES

This paragraph supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to

start of any onsite construction activities, the Contractor and the Contracting Officer shall make a joint condition survey. Immediately following the survey, the Contractor shall prepare a brief report including a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. This survey report shall be signed by both the Contractor and the Contracting Officer upon mutual agreement as to its accuracy and completeness. The Contractor shall protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference which their preservation may cause to the Contractor's work under the contract.

1.9 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Any deviations, requested by the Contractor, from the drawings, plans and specifications which may have an environmental impact will be subject to approval by the Contracting Officer and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

1.10 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental laws or regulations, permits, and other elements of the Contractor's Environmental Protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or equitable adjustments allowed to the Contractor for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 ENVIRONMENTAL PERMITS AND COMMITMENTS

The Contractor shall be responsible for obtaining and complying with all environmental permits and commitments required by Federal, State, Regional, and local environmental laws and regulations.

3.2 LAND RESOURCES

The Contractor shall confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any construction,

the Contractor shall identify any land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without approval. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. The Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, soil, or other materials displaced into uncleared areas shall be removed by the Contractor.

3.2.1 Work Area Limits

Prior to commencing construction activities, the Contractor shall mark the areas that need not be disturbed under this contract. Isolated areas within the general work area which are not to be disturbed shall be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, any markers shall be visible in the dark. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

3.2.2 Landscape

Trees, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved shall be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques. The Contractor shall restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.

3.2.3 Erosion and Sediment Controls

The Contractor shall be responsible for providing erosion and sediment control measures in accordance with Federal, State, and local laws and regulations. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of the Contractor's construction activities. The area of bare soil exposed at any one time by construction operations should be kept to a minimum. Any temporary measures shall be removed after the area has been stabilized.

3.2.4 Contractor Facilities and Work Areas

The Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in areas designated on the drawings or as directed by the Contracting Officer. Temporary movement or relocation of Contractor facilities shall be made only when approved. Erosion and sediment controls shall be provided for on-site borrow and spoil areas to prevent sediment from entering nearby waters. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas.

3.3 WATER RESOURCES

The Contractor shall monitor construction activities to prevent pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied to soil or vegetation unless otherwise indicated. All water areas affected by construction activities shall be monitored by the Contractor. For construction activities immediately adjacent to impaired surface waters, the Contractor shall be capable of quantifying sediment or pollutant loading to that surface water when required by State or Federally issued Clean Water Act permits.

3.3.1 Dewatering Operations

Construction operations for dewatering shall be controlled at all times to maintain compliance with existing State water quality standards and designated uses of the surface water body.

3.3.2 Stream Crossings

Stream crossings shall allow movement of materials or equipment without violating water pollution control standards of the Federal, State, and local governments.

3.3.3 Wetlands

The Contractor shall not enter, disturb, destroy, or allow discharge of contaminants into any wetlands. The Contractor shall be responsible for the protection of wetlands in accordance with paragraph ENVIRONMENTAL PERMITS, REVIEWS, AND APPROVALS. Authorization to enter specific wetlands shall not relieve the Contractor from any obligation to protect other wetlands within, adjacent to, or in the vicinity of the construction site and associated boundaries.

3.4 AIR RESOURCES

Equipment operation, activities, or processes performed by the Contractor shall be in accordance with all Federal and State air emission and performance laws and standards.

3.4.1 Particulates

Dust particles; aerosols and gaseous by-products from construction activities; and processing and preparation of materials shall be controlled at all times, including weekends, holidays and hours when work is not in progress. The Contractor shall maintain excavations, stockpiles, permanent and temporary access roads, and other work areas within or outside the project boundaries free from particulates which would cause the Federal, State, and local air pollution standards to be exceeded or which would cause a hazard or a nuisance. Particulate control shall be performed as the work proceeds and whenever a particulate nuisance or hazard occurs. The Contractor shall comply with all State and local visibility regulations.

3.4.2 Odors

Odors from construction activities shall be controlled at all times. The

odors shall not cause a health hazard and shall be in compliance with State regulations and/or local ordinances.

3.4.3 Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise. The Contractor shall be in compliance with State regulations and/or local ordinances.

3.4.4 Burning

Burning will not be allowed on the project site.

3.5 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL

Disposal of wastes shall be as directed below, unless otherwise specified in other sections and/or shown on the drawings.

3.5.1 Solid Wastes

Solid wastes (excluding clearing debris) shall be placed in containers which are emptied on a regular schedule. Handling, storage, and disposal shall be conducted to prevent contamination. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The Contractor shall transport solid waste off project site and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal. The Contractor shall verify that the selected transporters and disposal facilities have the necessary permits and licenses to operate.

3.5.2 Chemicals and Chemical Wastes

Chemicals shall be dispensed ensuring no spillage to the ground or water. Periodic inspections of dispensing areas to identify leakage and initiate corrective action shall be performed and documented. This documentation will be periodically reviewed by the Government. Wastes shall be classified, managed, stored, and disposed of in accordance with Federal, State, and local laws and regulations.

3.5.3 Contractor Generated Hazardous Wastes/Excess Hazardous Materials

Hazardous wastes are defined in 40 CFR 261, or are as defined by applicable State and local regulations. Hazardous materials are defined in 49 CFR 171 - 178. The Contractor shall, at a minimum, manage and store hazardous waste in compliance with 40 CFR 262. The Contractor shall take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. The Contractor shall segregate hazardous waste from other materials and wastes, shall protect it from the weather by placing it in a safe covered location, and shall take precautionary measures such as berming or other appropriate measures against accidental spillage. The Contractor shall be responsible for storage, describing, packaging, labeling, marking, and placarding of hazardous waste and hazardous material in accordance with 49 CFR 171 - 178, State, and local laws and regulations.

The Contractor shall transport Contractor generated hazardous waste off

project site within 30 days in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations. The Contractor shall dispose of hazardous waste in compliance with Federal, State and local laws and regulations. Spills of hazardous or toxic materials shall be immediately reported to the Contracting Officer. Cleanup and cleanup costs due to spills shall be the Contractor's responsibility. The disposition of Contractor generated hazardous waste and excess hazardous materials are the Contractor's responsibility.

3.5.4 Fuel and Lubricants

Storage, fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation. Fuel, lubricants and oil shall be managed and stored in accordance with all Federal, State, Regional, and local laws and regulations. Used lubricants and used oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations. Fuel must be brought to the project site each day that work is performed.

3.5.5 Waste Water

Disposal of waste water shall be as specified below.

- a. Waste water from construction activities, such as onsite material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, forms, etc. shall not be allowed to enter water ways or to be discharged prior to being treated to remove pollutants. The Contractor shall dispose of the construction related waste water off-project site in accordance with all Federal, State, Regional and Local laws and regulations.
- c. Water generated from the flushing of lines after disinfection or in conjunction with hydrostatic testing shall be in accordance with all Federal, State, and local laws and regulations for land application.

3.6 RECYCLING AND WASTE MINIMIZATION

The Contractor shall participate in State and local government sponsored recycling programs. The Contractor is further encouraged to minimize solid waste generation throughout the duration of the project.

3.7 NON-HAZARDOUS SOLID WASTE DIVERSION REPORT

The Contractor shall maintain an inventory of non-hazardous solid waste diversion and disposal of construction and demolition debris.

3.8 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

The Contractor shall protect these resources and shall be responsible for their preservation during the life of the Contract. If during excavation or other construction activities any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found,

all activities that may damage or alter such resources shall be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor shall immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

3.9 BIOLOGICAL RESOURCES

The Contractor shall minimize interference with, disturbance to, and damage to fish, wildlife, and plants including their habitat. The Contractor shall be responsible for the protection of threatened and endangered animal and plant species including their habitat in accordance with Federal, State, Regional, and local laws and regulations.

3.10 INTEGRATED PEST MANAGEMENT

In order to minimize impacts to existing fauna and flora, the Contractor shall coordinate with the Contracting Officer at the earliest possible time prior to pesticide application. The use and management of pesticides are regulated under 40 CFR 152 - 186.

3.10.1 Pesticide Delivery and Storage

Pesticides shall be delivered to the site in the original, unopened containers bearing legible labels indicating the EPA registration number and the manufacturer's registered uses. Pesticides shall be stored according to manufacturer's instructions and under lock and key when unattended.

3.10.2 Qualifications

For the application of pesticides, the Contractor shall use the services of a subcontractor whose principal business is pest control. The subcontractor shall be licensed and certified in the state where the work is to be performed.

3.10.3 Pesticide Handling Requirements

The Contractor shall formulate, treat with, and dispose of pesticides and associated containers in accordance with label directions and shall use the clothing and personal protective equipment specified on the labeling for use during all phases of the application. Material Safety Data Sheets (MSDS) shall be available for all pesticide products.

3.10.4 Application

Pesticides shall be applied by a State Certified Pesticide Applicator in accordance with EPA label restrictions and recommendation. The Certified Applicator shall wear clothing and personal protective equipment as specified on the pesticide label. Water used for formulating shall only come from locations designated by the Contracting Officer. The Contractor shall not allow the equipment to overflow. Prior to application of pesticide, all equipment shall be inspected for leaks, clogging, wear, or damage and shall be repaired prior to being used.

3.11 PREVIOUSLY USED EQUIPMENT

The Contractor shall clean all previously used construction equipment prior to bringing it onto the project site. The Contractor shall ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. The Contractor shall consult with the USDA jurisdictional office for additional cleaning requirements.

3.12 MAINTENANCE OF POLLUTION FACILITIES

The Contractor shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

3.13 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel shall be trained in all phases of environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel prior to commencing construction activities. Additional meetings shall be conducted for new personnel and when site conditions change. The training and meeting agenda shall include: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, wetlands, and endangered species and their habitat that are known to be in the area.

3.14 POST CONSTRUCTION CLEANUP

The Contractor shall clean up all areas used for construction in accordance with Contract Clause: "Cleaning Up". The Contractor shall, unless otherwise instructed in writing by the Contracting Officer, obliterate all signs of temporary construction facilities such as haul roads, work area, temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed area shall be cleared of trash, debris, graded, filled and the entire area seeded unless otherwise indicated on the drawings.

-- End of Section --

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01420

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

1.2 ORDERING INFORMATION

-- End of Section Table of Contents --

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. The designations "AOK" and "LOK" are for administrative purposes and should not be used when ordering publications.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
1819 L Street, NW, 6th Floor
Washington, DC 20036
Ph: 202-293-8020
Fax: 202-293-9287
Internet: <http://www.ansi.org/>

Note --- Documents beginning with the letter "S" can be ordered from:

Acoustical Society of America
Standards and Publications Fulfillment Center
P. O. Box 1020
Sewickley, PA 15143-9998
Ph: 412-741-1979
Fax: 412-741-0609
Internet: <http://asa.aip.org>
General e-mail: asa@aip.org
Publications e-mail: asapubs@abdintl.com
AOK 5/01
LOK 6/00

AMERICAN NURSERY AND LANDSCAPE ASSOCIATION (ANLA)

1250 I St., NW, Suite 500
Washington, DC 20005-3922
Ph: 202-789-2900
FAX: 202-789-1893
Internet: <http://www.anla.org>
AOK 5/01
LOK 3/01

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Ph: 610-832-9585
Fax: 610-832-9555
Internet: <http://www.astm.org>
AOK 5/01
LOK 3/01

AMERICAN WATER WORKS ASSOCIATION(AWWA)
6666 West Quincy
Denver, CO 80235
Ph: 800-926-7337 - 303-794-7711
Fax: 303-794-7310
Internet: <http://www.awwa.org>
AOK 5/01
LOK 3/01

AMERICAN WELDING SOCIETY (AWS)
550 N.W. LeJeune Road
Miami, FL 33126
Ph: 800-443-9353 - 305-443-9353
Fax: 305-443-7559
Internet: <http://www.amweld.org>
AOK 5/01
LOK 3/01

ASME INTERNATIONAL (ASME)
Three Park Avenue
New York, NY 10016-5990
Ph: 212-591-7722
Fax: 212-591-7674
Internet: <http://www.asme.org>
AOK 5/01
LOK 6/00

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
445 Hoes Ln, P. O. Box 1331
Piscataway, NJ 08855-1331
Ph: 732-981-0060 OR 800-701-4333
Fax: 732-981-9667
Internet: <http://www.ieee.org>
E-mail: customer.services@ieee.org
AOK 5/01
LOK 6/00

MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS
INDUSTRY (MSS)
127 Park St., NE
Vienna, VA 22180-4602
Ph: 703-281-6613
Fax: 703-281-6671
Internet: <http://www.mss-hq.com>
e-mail: info@mss-hq.com
AOK 5/01
LOK 6/00

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
1300 N. 17th St., Suite 1847
Rosslyn, VA 22209
Ph: 703-841-3200
Fax: 703-841-3300
Internet: <http://www.nema.org/>
AOK 5/01
LOK 6/00

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park
P.O. Box 9101
Quincy, MA 02269-9101
Ph: 617-770-3000
Fax: 617-770-0700
Internet: <http://www.nfpa.org>
AOK 5/01
LOK 8/00

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)
100 Bureau Drive
Stop 3460
Gaithersburg, MD 20899-3460
Ph: 301-975-NIST
Internet: <http://www.nist.gov>
Order Publications From:
Superintendent of Documents
U.S. Government Printing Office
732 North Capitol Street, NW
Mailstop: SDE
Washington, DC 20401
Ph: 202-512-1530
Fax: 202-512-1262
Internet: <http://www.gpo.gov>
or
National Technical Information Services (NTIS)
5285 Port Royal Rd.
Springfield, VA 22161
Ph: 703-605-6000
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SECTION 01451A

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 (2001) 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 (2000b) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

1.2 PAYMENT

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

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

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

The Contractor shall furnish for review by the Government, not later than 10 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 15 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.1 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to 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. (Laboratory facilities will be

approved by the Contracting Officer.)

- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.
- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats.
- i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

3.2.2 Acceptance of Plan

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

3.2.3 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 10 calendar days prior to the Coordination Meeting.

During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies

in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure safety and contract compliance. 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.

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 5 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 Additional Requirement

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

3.4.4 Organizational Changes

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

3.5 SUBMITTALS AND DELIVERABLES

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

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers,

complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

3.6.1 Preparatory Phase

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

- a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. Review of provisions that have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.
- j. Discussion of the initial control phase.
- k. The Government shall be notified at least 48 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 48 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.
- g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

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

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

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

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

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of \$1,200 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently

selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials shall be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to an approved testing laboratory.

Coordination for each specific test, exact delivery location, and dates will be made through the Contracting Officer.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the Special Clause, "Commencement, Prosecution, and Completion of Work", or by the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

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

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting

Officer's Representative shall be in attendance at the final acceptance inspection. Additional Local Government personnel may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

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

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 48 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 NOTIFICATION OF NONCOMPLIANCE

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

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SECTION 02230A

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SECTION 02230A

CLEARING AND GRUBBING

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 Clearing

Clearing shall consist of the felling, trimming, and cutting of trees and the satisfactory disposal of the trees and other vegetation designated for removal, including weeds, ground covers, vines, snags, overhanging branches, brush, and rubbish occurring within the project right-of-way.

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 project right-of-way.

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

Application of Herbicide

At least ten (10) days prior to application of herbicide, a list of the proposed herbicide application equipment to be used in performance of the clearing work, including descriptive data and calibration test.

SD-07 Certificates

Herbicide Treatment Plan; G, RE

At least ten (10) days prior to application of herbicide, a Herbicide Treatment Plan, giving proposed sequence of herbicide treatment work. The herbicide trade name, chemical composition, formulation, concentration, application rate of active ingredients and methods of application for all materials furnished, and the name and state license number of the state certified applicator shall be included.

Herbicide

For EPA registration number and registered uses, at least ten (10) days prior to intended date of the first delivery.

PART 2 PRODUCTS

2.1 HERBICIDE

Herbicide, for eradication of *Arundo donax* (giant reed) shall be Rodeo (glyphosate) or approved equal carrying a license for application within wetland or sensitive environmental areas.

PART 3 EXECUTION

3.1 CLEARING

Trees, stumps, roots, brush, and other vegetation in areas to be cleared shall be cut off flush with or below the original ground surface, except such trees as may be indicated or directed to be left standing. Tree branches, vines, and other vegetation in fences located adjacent to project right-of-way shall be cut off flush along the fence/right-of-way lines or as directed by the Contracting Officer. Trees designated to be left standing within the cleared areas shall be trimmed of dead branches 2 inches or more in diameter and shall be trimmed of all branches 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. Trees to be left standing 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. Clearing shall also include the removal and disposal of overhanging branches, vines, ground covers and structures that obtrude, encroach upon, or otherwise obstruct the work as directed by the Contracting Officer.

3.2 GRUBBING

Material to be grubbed, together with tree stumps and other organic or metallic debris not suitable for foundation purposes, shall be removed to a depth of not less than 18 inches below the original surface level of the ground in areas indicated to be grubbed and in areas indicated as construction areas under this contract, such as areas for landscape stone, and areas to be landscape. 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.

3.3 TREE REMOVAL

Where indicated or directed, trees and stumps to be remove 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.

3.4 DISPOSAL OF MATERIALS

- a. Contractor shall submit for approval, prior to pre-construction

meeting, a proposed route for the hauling of materials for disposal. The Contractor shall strictly adhere to the approved route only, unless written permission is obtained from the Contracting Officer to change the route.

b. Refuse from the clearing and grubbing operations, shall be disposed of outside the limits of Government-controlled land at the Contractor's responsibility and expense in a legal manner.

c. Costs incurred due to repair, restoration or replacement of existing improvements which are not designated for removal which are damaged as a result of construction operations shall be the responsibility of the Contractor.

d. Replacement shall be at least equal to the conditions when Contractor entered upon the work, and shall match them in finish and dimension. Plant material shall be replaced with the same species, size and in the original location.

e. Landscaping south of Talbert Ave. shall include the removal and disposal of plant materials indicated on the drawings to be removed. The plant pits shall be backfilled and compacted to existing grade. Plants removed from landscape stone areas shall be filled with landscape stone removed from this reach of the project to match existing stone. Existing bubblers and risers at plant pits shall be removed and lines capped.

3.5 REMOVAL OF *ARUNDO DONAX* (GIANT REED)

3.5.1 General

All *Arundo donax* (GIANT REED) shall be treated for an 100% kill and removed from within the limits of construction as directed by the Contracting Officer.

3.5.2 Growth Timing

Giant reed grows actively from March to late July at which time it produces a large flower head. During the growth phase the plant is actively producing vegetative material, and so is actively drawing water and nutrients from the roots into the stem and leaves.

3.5.3 Herbicide Treatment Plan

a. After flowering (usually August through October) of established plants, the giant reed begins to actively translocate sugar to the root mass for storage in preparation for winter dormancy. Contractor shall treat giant reed plants during this active translocation period with herbicide that will effectively be carried into the root mass resulting in very high rates of "kill" of the entire plant. Dead standing giant reed is very easy to cut and chip three (3) to six (6) weeks after treatment.

b. Young, new post flood sprouts growing from small root fragments

shall be treated early in their growth (early summer) before attacking established stands after flowering.

3.5.4 Restrictions

Application of herbicide to the foliage or cutting the giant reed at any stage during the "active growth" stage resulting in cut-resprout-spray approaches will not be acceptable.

3.5.5 Preventing Re-infestation or Resprouting

Contractor shall conduct additional spot-applications to re-sprouts as directed by the Contracting Officer.

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SECTION 02316A

EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS AND GRADING

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 2487	(1998) Classification of Soils for Engineering Purposes (Unified Soil Classification System)

1.2 Removal of Existing Features

Existing features shall be removed as indicated on the project drawings and as specified in SECTION 02316A CLEARING AND GRUBBING.

1.3 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.

1.4 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
Testing of Backfill Materials

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, AND SW, and free from roots and other organic matter, trash, debris, and stones larger than one inch (1") in any direction are satisfactory.

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 two inches (2"), and materials classified in ASTM D 2487 as PT, OH, and OL. 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 2" 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 Select Granular Material

Select granular material shall consist of well-graded sand, gravel, crushed gravel, crushed stone or crushed slag composed of hard, tough and durable particles, and shall contain not more than 10 percent by weight of material passing a No. 200 mesh sieve and no less than 95 percent by weight passing the 1 inch sieve. The maximum allowable aggregate size shall be 1 inch per foot of pipe diameter not to exceed three inches (3") or the maximum size recommended by the pipe manufacturer, whichever is smaller.

2.1.7 Initial Backfill Material

Initial backfill shall consist of select granular material or satisfactory materials free from rocks three inches (3") or larger in any dimension or free from rocks of such size as recommended by the pipe manufacturer, whichever is smaller.

2.2 PLASTIC MARKING TAPE

Plastic marking tape shall be acid and alkali-resistant polyethylene film, six inches (6 inches) 6 inches wide with minimum thickness of 0.004 inch. 0.004 inch. Tape shall have a minimum strength of 1750 psi 1750 psi lengthwise and 1500 psi 1500 psi crosswise. The tape shall be manufactured with integral wires, foil backing or other means to enable detection by a metal detector when the tape is buried up to three feet (3') deep. The tape shall be of a type specifically manufactured for marking and locating underground utilities. The metallic core of the tape shall be encased in a protective jacket or provided with other means to protect it from corrosion. Tape color shall be as specified in TABLE 1 and shall bear a continuous printed inscription describing the specific utility.

TABLE 1. Tape Color

Red:	Electric
Yellow:	Gas, Oil, Dangerous Materials
Orange:	Telephone, Telegraph, Television, Police, and Fire Communications
Blue:	Water Systems
Green:	Sewer Systems
Purple:	Reclaimed Water System

PART 3 EXECUTION

3.1 EXCAVATION

Excavation shall be performed to the lines and grades indicated. During excavation, material satisfactory for backfilling shall be stockpiled in an orderly manner at a distance from the banks of the trench equal to 1/2 the depth of the excavation, but in no instance closer than two feet (2'). 2 feet. Excavated material not required or not satisfactory for backfill shall be removed from the site. Grading shall be done as may be necessary to prevent surface water from flowing into the excavation, and any water accumulating shall be removed to maintain the stability of the bottom and sides of the excavation. Unauthorized overexcavation shall be backfilled in accordance with paragraph BACKFILLING AND COMPACTION at no additional cost to the Government.

3.1.1 Trench Excavation Requirements

The trench shall be excavated as recommended by the manufacturer of the pipe to be installed and as shown on the project drawings.

3.1.1.1 Bottom Preparation

The bottoms of trenches 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 two inches (2") or greater in any dimension, or as recommended by the pipe manufacturer, whichever is smaller, shall be removed to avoid point bearing.

3.1.1.2 Removal of Unyielding Material

Where unyielding material is encountered in the bottom of the trench, such material shall be removed four inches (4") below the required grade and replaced with suitable materials as provided in paragraph BACKFILLING AND COMPACTION.

3.1.1.3 Removal of Unstable Material

Where unstable material is encountered in the bottom of the trench, such material shall be removed to the depth directed and replaced to the proper grade with select granular material as provided in paragraph BACKFILLING AND COMPACTION. When removal of unstable material is required due to the Contractor's fault or neglect in performing the work, the resulting material shall be excavated and replaced by the Contractor without additional cost to the Government.

3.1.1.4 Excavation for Appurtenances

Excavation for manholes, catch-basins, inlets, or similar structures shall be of sufficient size to permit the placement and removal of forms for the full length and width of structure footings and foundations as shown. Rock shall be cleaned of loose debris and cut to a firm surface either level, stepped, or serrated, as shown or as directed. Loose disintegrated rock and thin strata shall be removed. Removal of unstable material shall be as specified above. When concrete or masonry is to be placed in an excavated area, special care shall be taken not to disturb the bottom of the excavation. Excavation to the final grade level shall not be made until just before the concrete or masonry is to be placed.

3.1.1.5 Jacking, Boring, and Tunneling

Unless otherwise indicated or approved, excavation shall be by open cut.

3.1.2 Stockpiles

Stockpiles of materials shall be placed and graded as specified or indicated. 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. 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.

3.2 BACKFILLING AND COMPACTION

Backfill material shall consist of satisfactory material, select granular material, or initial backfill material as required. Backfill shall be placed in layers not exceeding six inches (6") loose thickness for compaction by hand operated machine compactors, and eight inches (8") 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.

3.2.1 Trench Backfill

Trenches shall be backfilled to the grade shown. The trench shall not be backfilled until all specified tests are performed.

3.2.1.1 Bedding and Initial Backfill

Initial backfill material shall be placed and compacted with approved tampers to a height of at least 6" above the pipe or conduit. The backfill shall be brought up evenly on both sides of the pipe for the full length of the pipe. Care shall be taken to ensure thorough compaction of the fill under the haunches of the pipe.

3.2.1.2 Final Backfill

The remainder of the trench shall be filled with satisfactory material. Backfill material shall be placed in layers of a maximum of six inches (6") loose thickness, and compacted to 85 percent maximum density for cohesive soils and 90 percent maximum density for cohesionless soils. Compaction by water flooding or jetting will not be permitted. This requirement shall also apply to all other areas not specifically designated above.

3.2.2 Backfill for Appurtenances

After the manhole, catchbasin, inlet, or similar structure has been constructed and the concrete has been allowed to cure for 7 days, backfill shall be placed in such a manner that the structure will not be damaged by the shock of falling earth. The backfill material shall be deposited and compacted as specified for final backfill, and shall be brought up evenly on all sides of the structure to prevent eccentric loading and excessive stress.

3.2.2.1 Grading

Water shall be added by sprinkling and mixing or reduced by aeration as necessary until the water content is at optimum or at the percentage as directed by the Contracting Officer. Mixing shall be continued until a uniform distribution of water is obtained.

Finish surface shall not vary more than .02 foot from required grades adjacent to both paved and unpaved areas.

Adjustments shall be made in placing, spreading, or finishing procedures as may be directed by the Contracting Officer to obtain a uniform layer

thickness and true grades, to minimize segregation and degradation where pertinent, to reduce or increase water content, and to insure a satisfactory course.

Materials found unsatisfactory shall be replaced or reworked at the Contractor's expense to produce satisfactory material.

3.3 SPECIAL REQUIREMENTS

Special requirements for both excavation and backfill relating to the specific utilities are as follows:

3.3.1 Water Lines

Trenches shall be of a depth to provide a minimum cover as specified in Section 02811 IRRIGATION SYSTEM or as shown on the project drawings.

3.3.2 Electrical Distribution System

Direct burial cable and conduit line shall have a minimum cover as specified in Section 16375A ELECTRICAL DISTRIBUTION SYSTEM, UNDERGROUND or as shown on the project drawings.

3.3.3 Plastic Marking Tape

Warning tapes shall be as specified in Section 16375A ELECTRICAL DISTRIBUTION SYSTEM, UNDERGROUND and Section 02811 IRRIGATION SYSTEM or as shown on the project drawings.

3.4 TESTING

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

3.4.1 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.

3.4.2 Testing of Backfill Materials

Classification of backfill 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 backfill.

3.4.3 Field Density Tests

Tests shall be performed in sufficient numbers to ensure that the specified density is being obtained. A minimum of one field density test per lift of

backfill for every 50 feetfeet of installation shall be performed. One moisture density relationship shall be determined for every 1500 cubic yards of material used. Field in-place density shall be determined in accordance with ASTM D 1556. Copies of calibration curves, results of calibration tests, and field and laboratory density tests shall be furnished to the Contracting Officer. Trenches improperly compacted shall be reopened to the depth directed, then refilled and compacted to the density specified at no additional cost to the Government.

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SECTION 02600

LANDSCAPE STONE AND ORNAMENTAL STONE FEATURES

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 C 88	(1999 a) Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C 127	(1988; R 1993e1) Specific Gravity and Absorption of Coarse Aggregate
ASTM C 535	(1996e1) Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM D 5313	(1992; R 1997) Evaluation of Durability of Rock for Erosion Control Under Wetting and Drying Conditions

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-04 Samples

Landscape Stone; G, RE

An in-place field sample, the minimum size which shall be ten foot (10') by twenty foot (20'), shall be prepared on a portion of the slope and on a portion of the flat area for approval by the Contracting Officer as to size, variation, color, and placement. The sample shall include the required edge treatment.

Ornamental Stone Features; G, RE

At least one (1) sample of each type of proposed ornamental stone features shall be placed on the site for approval by the Contracting Officer as to size, appropriateness, and color.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Definitions

Stone (including landscape stone and stone utilized as "ornamental stone features") shall be obtained from bedrock deposits and be angular in shape.

2.1.2 General

Contractor shall make all arrangements, pay all royalties, and secure all permits for the procurement, furnishing, and transporting of landscape and ornamental stone features. Contractor shall vary the quarrying, processing, loading, and placing operations to produce the sizes and quality of landscape stone and ornamental stone features specified. If the landscape stone and ornamental stone features being furnished does not fully meet all the requirements of these specifications, the Contractor shall furnish, at no additional cost to the government, other landscape stone and ornamental stone features meeting the requirements of these specifications.

2.1.3 Source Authorization

Before any landscape stone and ornamental stone features is produced from a source for completion of the work under this contract, the source of the landscape and ornamental stone features must be authorized by the Contracting Officer. Authorization of a landscape stone and ornamental stone features source shall not be construed as a waiver of the right of the government to require the Contractor to furnish landscape stone and ornamental stone features which complies with these specifications. Materials produced from localized areas, zones or strata will be rejected when such materials do not comply with the specifications.

2.1.3.1 Source Development

Before a proposed source or sources of landscape stone and ornamental stone features will be considered for sampling and testing, the Contractor must demonstrate that the source has sufficient landscape stone and ornamental stone features to fulfill the contract requirements. If sufficient amounts of landscape stone and ornamental stone features conforming to these specifications are not available from a source or sources used in the work, the Contractor shall submit landscape stone and ornamental stone features from another source for authorization.

2.1.3.2 Source Documentation

Authorization of a proposed landscape stone and ornamental stone features source will be based on test results and/or service records. In general, current Corps of Engineers test results shall be required as outlined in paragraph: Quality Compliance Testing, below. In special cases, however, the Contracting Officer may elect to use either past Corps of Engineers test results or a combination of service records along with test results

from other agencies or private laboratories. A service record is considered to be acceptable if landscape stone and ornamental stone features from the proposed source has remained sound and functional after at least ten (10) years of exposure on a project similar to the one to be constructed under these specifications.

2.1.3.3 Potential Stone Sources

The following are a few of the sources in the project area which have either undergone recent quality compliance testing for use on Corps of Engineers projects or have acceptable service records:

<u>Source Name</u>	<u>Nearest City</u>
All American Asphalt	Corona
Corona-Pacific	Corona
3M	Corona

Listing of a landscape stone and ornamental stone features source is not to be construed as authorization of all materials from the source, nor as a waiver of inspection and testing of the source. Landscape stone and ornamental stone features produced from any listed source must meet all the requirements set forth in these specifications. Listing of a stone source is also not to be construed as an indication that the source can produce the total quantity of stone required for the project. All landscape stone and ornamental stone features utilized on the project shall be obtained from a single source unless otherwise authorized by the Contracting Officer.

2.1.3.4 Quality Compliance Testing

Samples for Corps of Engineers testing as specified in paragraph: Source Documentation shall be submitted a minimum for forty-five (45) calendar days in advance of the time when the landscape stone and ornamental stone features will be required in the work. Landscape stone and ornamental stone features from a proposed source or sources will be tested by the contractor for quality compliance. All tests shall be performed at the Contractor's expense.

All test samples shall be representative of the landscape stone and ornamental stone features source and shall be obtained by the Contractor under the supervision of the Contracting Officer and delivered to an independent testing laboratory at the Contractor's expense.

2.1.3.5 Landscape Stone and Ornamental Stone Features Quality

Landscape stone and ornamental stone features shall meet the following test requirements:

<u>Test</u>	<u>Test Method</u>	<u>Requirement</u>
Specific Gravity (Bulk SSD)	ASTM C 127	2.60 minimum
Absorption	ASTM C 127	2.0% maximum
Wetting and Drying	SPD Test Procedure ⁽¹⁾	No fracturing ⁽³⁾
Sulfate Soundness	ASTM C 88 ⁽²⁾	10% max loss ⁽⁴⁾
Abrasion Loss	ASTM C 535	45% maximum loss

Resistance of Rock to Wetting and Drying. Stone shall have a maximum loss of 1 percent when determining the durability of stone when subject to wetting and drying in accordance with ASTM D 5313, except the surface area of one side of the sample shall be between square inches and square inches.

NOTE (2): The test shall be made on fifty (50) particles each weighing 100 grams (+/- 25 grams), in lieu of the gradation given in ASTM C 88.

NOTE (3): Weakening and loss of individual surface particles is permissible unless bonding of the surface grains softens and causes general disintegration of the surface material.

NOTE (4): Landscape stone and ornamental stone features which has a loss greater than the specified limit will be accepted if the Contractor demonstrates that the landscape stone and ornamental stone features has a satisfactory service record.

2.1.4 Stone Acceptance

Prior to placement, all landscape stone and ornamental stone features shall be subject to acceptance by the Contracting Officer. Acceptance of any landscape stone and ornamental stone features shall not constitute acceptance of all stone from a source. All accepted landscape stone and ornamental stone features shall be:

- a. of the same lithology as the original stone from which test results or service records were taken as a basis for authorization of the source;
- b. sound, durable and hard, and free from lamination, weak cleavages, undesirable weathering, or blasting or handling-induced fractures (or fracture zones which subtend more than one-third (1/3) of the total circumference of the landscape stone and ornamental stone features along the plane of fracturing);
- c. of such character that it will not disintegrate from the action of air, water, or the conditions of handling and placing;
- d. clean and free from earth, clay, refuse, or adherent coatings;
- e. angular quarried material with a shape which assures interlocking with adjacent landscape stone and ornamental stone features.

2.1.5 Rejected Landscape Stone and Ornamental Stone Features

Landscape stone and ornamental stone features of unsuitable quality and/or size distribution as required by these specifications. Any rejected landscape stone and ornamental stone features shall be promptly removed from the project at no expense to the Government. Any portions of the work covered by these specifications containing rejected landscape stone and ornamental stone features will be considered incomplete.

2.1.6 Gradation, Sampling, and Testing for Stone

Gradation testing shall be required for landscape stone and ornamental stone features thickness of twenty-four inches (24") or less. Tests shall be performed by an approved testing laboratory on samples selected by the Contracting Officer. The Government reserves the right to perform check tests and to use the Contractor's sampling and testing facilities to make the tests. One (1) gradation test shall be required at the beginning of production prior to delivery of landscape stone and ornamental stone features from the source to the project site. A minimum of one (1) additional test shall be required for each 5,000 tons of landscape and ornamental stone features placed. Each gradation sample shall consist of not less than five (5) tons of stone, selected at random from the production run for the first test of from landscape stone and ornamental stone features placed on grade or stockpiled on-site for required additional tests. All sampling and gradation tests performed by the Contractor shall be under the supervision of the Contracting Officer.

2.1.7 Gradation

2.1.7.1 General

All points on individual grading curves shall be between the boundary limits as defined by smooth curves drawn through specified grading limits plotted on a mechanical analysis diagram. The individual grading curves shall not exhibit abrupt changes in slope denoting skip grading or scalping of certain sizes. Specified grading of all material shall be met both at the source and as delivered to the project. In addition, material not meeting the required grading due to segregation or degradation during placement shall be rejected. If test results show that landscape and ornamental stone features does not meet the required grading, the hauling operation will be stopped immediately and will not resume until processing procedures are adjusted and a gradation test is completed showing gradation requirements are met. All gradation tests shall be at the expense of the Contractor.

2.1.7.2 Landscape Stone and Ornamental Stone Features

Gradation shall be as follows:

- a. eighty percent (80%) to one-hundred percent (100%) of landscape stone utilized on the project shall be between twelve inches (12") in diameter minimum in any dimension and eighteen inches (18") in diameter maximum in any dimension.
- b. twenty percent (20%) of landscape stone utilized on the project may be larger than eighteen inches (18") in diameter but shall not exceed twenty-four inches (24") in diameter in any dimension.
- c. ornamental stone features utilized as "features" shall be in conformance with gradation requirements as shown on the contract drawings.

2.1.8 Landscape Stone and Ornamental Stone Feature Color

Color of landscape stone and ornamental stone features shall be similar to earthen tones conforming to "Munsell" Soil Color Charts and be predominantly gray blue to dark gray blue (Hue 7.5 YR, value/chroma 4/0 to 3/0), with traces of reddish yellow to rust brown (Hue 7.5 YR, value/chroma 7/6 to 5/6) to an extent which covers between twenty percent (20%) to forty percent (40%) of the landscape stone and ornamental stone features surface layer after landscape stone and ornamental stone features placement.

PART 3 EXECUTION

3.1 PLACEMENT

Method of placement shall be submitted to Contracting Officer for approval prior to commencement of placement operations. Prior to placement of stone, the Contractor shall delineate, on-site, the stone area boundary lines for approval by the Contracting Officer. Removed landscape stone south of Talbert Ave. may be placed on this project but must meet requirements of specifications herein.

3.1.1 Landscape Stone and Ornamental Stone Features

Landscape stone and ornamental stone features shall be placed in a manner to produce a reasonably well graded mass with the minimum practicable percentage of voids. Stone shall be placed to its full course thickness in one (1) operation and in a manner to avoid displacing the underlying material. Material shall not be dropped from a height of more than eighteen inches (18"). Contractor shall maintain the landscape and ornamental stone features until accepted and any material displaced by any cause shall be replaced at Contractor's expense to the lines and grades indicated. Self propelled equipment shall not be used on the levee slopes.

Hand placing, barring, or placing by crane will be required only to the extent necessary to secure the results specified. Placing landscape stone and ornamental stone features by dumping into chutes or by similar methods likely to cause segregation will not be permitted.

3.1.2 Landscape Stone Layer

All ground (soil) surfaces throughout the landscape stone layer areas shall be completely covered with landscape stone. The landscape stone layer shall consist of at least one (1) layer of twelve inch (12") diameter minimum size landscape stone up to a maximum of two (2) layers of landscape stone not exceeding thirty inches (30") in depth, resulting in a stone layer surface elevation varying between irregular and consistent.

Landscape stone shall be arranged in stable positions interlocked with or buttressed against adjacent landscape stone. The edges of the landscape stone layer shall be tapered vertically and present an irregular line horizontally, as shown on the contract drawings. Stone at toe of slopes shall be keyed 30% of stone size into finish grade to provide a stable landscape stone slope layer as per contract drawings. Stones shall not be allowed to rest against existing fences, trees or shrubs.

3.1.3 Ornamental Stone Features

Ornamental stone features shall be placed in conformance with the details

on the contract drawings. Locations shall be approved by the Contracting Officer prior to placement.

3.1.4 Damages

Damages to new or existing facilities as a result of placement of landscape stone shall be repaired at the Contractor's expense.

3.1.5 Maintenance

The Contractor shall maintain the Landscape Stone Areas in a weed free and satisfactory condition until the end of the hydroseed establishment period under Section 02921a, or the plant establishment period under Section 02930A, whichever is longer. Visible weeds shall be sprayed immediately with an approved non-selective, post-emergent herbicide.

3.2 WEED ABATEMENT AND SOIL TREATMENT

3.2 Herbicide

Contractor shall apply (in the presence of the Contracting Officer), to the subgrade of areas to receive Landscape Stone, prior to placement, an approved selective pre-emergent, surface-applied herbicide. Visible weeds, if not removed by other operations, shall be sprayed with an approved non-selective, post-emergent herbicide.

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SECTION 02722A

DECOMPOSED GRANITE

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 C 117	(1995) Materials Finer Than 75 micrometer (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 136	(1996a) Sieve Analysis of Fine and Coarse Aggregates
ASTM D 75	(1987; R 1997) Sampling Aggregates
ASTM D 4318	(2000) Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM E 11	(1995) Wire-Cloth Sieves for Testing Purposes

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-06 Test Reports

SAMPLING AND TESTING

For laboratory testing methods and results.

Sample

For consistency, grading, and color.

PART 2 PRODUCTS

2.1 DECOMPOSED GRANITE

2.1.1 Consistency

- a. Decomposed (disintegrated) granite shall be free from lumps, balls of clay, organic matter, deleterious substances, and other objectionable matter and shall be of such nature that it can be compacted readily under watering and rolling to form a firm, stable base.
- b. Decomposed granite shall be any igneous rock which has been weathered in place, or any sedimentary material principally derived from igneous rock.

2.1.2 Grading

Decomposed (disintegrated) granite shall have a maximum particle size of three-quarter inches (3/4"). Not more than fifteen percent (15%) by weight shall pass the No. 200 sieve. The portion of material passing the No. 40 sieve shall have a plasticity index less than nine (9).

2.1.3 Color

Color shall match existing decomposed granite on previous "reaches" of the project.

2.2 SAMPLING AND TESTING

2.2.1 Responsibility

Sampling and testing shall be the responsibility of the Contractor. Sampling and testing shall be performed by an approved commercial testing laboratory, or by the Contractor subject to approval of the Contracting Officer. Tests shall be performed in sufficient number to insure that materials meet specified requirements. Copies of test results shall be furnished to Contracting Officer 14 days prior to start of work.

2.2.2 Sample

Samples for material gradation and plastic-limit tests shall be taken in conformance with ASTM D 75. When deemed necessary, the sampling shall be observed by the Contracting Officer.

2.2.3 Testing

- a. Sieve Analyses shall be made in conformance with ASTM C 117 and ASTM C 136. Sieves shall conform to ASTM E 11.
- b. Liquid limit and plasticity index shall be determined in accordance with ASTM D 4318.
- c. Field-In Place Density shall be determined in accordance with the requirements of SECTION 02316A EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS AND GRADING. At least one (1)

density test shall be made every five-hundred lineal feet (500') of surfacing.

PART 3 EXECUTION

3.1 PREPARATION OF SUBGRADE

Prior to placing the decomposed granite surfacing, the subgrade shall be cleaned of all foreign substances. Ruts or soft, yielding spots that may appear in subgrade, areas having inadequate compaction, and deviations of the surface from requirements set forth therein shall be corrected by loosening, removing, and by adding approved material, reshaping to line and grade, and recompacting to specified density requirements and as approved by the Contracting Officer.

3.2 INSTALLATION

3.2.1 WEED ABATEMENT AND SOIL TREATMENT

3.2.2 Herbicide

Contractor shall apply, to the subgrade of areas to receive decomposed granite, prior to placement, an approved selective pre-emergent, surface-applied herbicide. Visible weeds, if not removed by other operations, shall be sprayed with an approved non-selective, post-emergent herbicide. Application rates and methods shall be as recommended by manufacturer.

3.2.3 PLACING AND COMPACTING

Material shall be leveled to a uniform thickness so that the layer, after compaction, will not exceed the indicated thickness.

Water shall be added by sprinkling and mixing or reduced by aeration as necessary until the water content is at optimum or at the percentage as directed by the Contracting Officer. Mixing shall be continued until a uniform distribution of water is obtained.

Decomposed granite shall be thoroughly compacted for the full depth to at least ninety-five percent (95%) maximum density.

3.3 FINISHING

Finish surface shall not vary more than .02 foot from required grades adjacent to both paved and unpaved areas.

Adjustments shall be made in placing, spreading, or finishing procedures as may be directed by the Contracting Officer to obtain a uniform layer thickness and true grades, to minimize segregation and degradation where pertinent, to reduce or increase water content, and to insure a satisfactory course.

Materials found unsatisfactory shall be replaced or reworked at the Contractor's expense to produce satisfactory material.

3.4 MAINTENANCE

The finished surface shall be maintained in a weed free and satisfactory condition until the end of the hydroseed establishment period under SECTION 02921a, or the plant establishment period under SECTION 02930A, whichever is longer. Visible weeds shall be sprayed with an approved non-selective, post-emergent herbicide. At the end of the maintenance period the contractor shall apply, to the decomposed granite surface an approved selective pre-emergent, surface-applied herbicide . Application rates and methods shall be as recommended by manufacturer.

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SECTION 02770A

CONCRETE

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 A 615/A 615M	(1996a) Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM A 616/A 616M	(1996a) Rail-Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A 617/A 617M	(1996a) Axle-Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM C 143	(1990a) Slump of Hydraulic Cement Concrete

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

Concrete

Copies of certified delivery tickets for all concrete used in the construction.

1.3 WEATHER LIMITATIONS

1.3.1 Placing During Cold Weather

Concrete shall not be placed when the air temperature is below 40⁰F and is falling.

1.4 PLANT, EQUIPMENT, MACHINES, AND TOOLS

1.4.1 General Requirements

Plant, equipment, machines, and tools used in the work shall be subject to approval and shall be maintained in a satisfactory working condition at all times. The equipment shall have the capability of producing the required product, meeting grade controls, thickness control and smoothness requirements as specified. Use of the equipment shall be discontinued if it produces unsatisfactory results.

PART 2 PRODUCTS

2.1 CONCRETE

Cement shall be low alkali portland cement and of the same brand and type used throughout the project.

Sand shall consist of natural or manufactured granular material, free of deleterious amounts of organic material, mica, loam, clay, and other substances not suitable for portland cement concrete. Sand shall be thoroughly and uniformly washed.

Coarse aggregate shall be composed of gravel or a blended mixture of crushed rock and gravel. Blending shall produce a uniform, consistent percentage of each. Products shall be clean, hard, sound, durable, uniform in quality and free of any detrimental quantity of deleterious substances.

Water shall not contain deleterious substances or any amount of impurities that will cause a change in the time of setting. Total free water shall not exceed an amount producing the maximum slump specified herein.

Concrete mixes shall be proportioned to obtain compressive strength in twenty-eight (28) calendar days of 3000 psi or as otherwise specified. The maximum size of aggregate shall be one and one-half inches (1-1/2"). Total air content of exterior concrete shall be maintained at five percent (5%) to seven percent (7%) by volume of concrete. Slump shall be not more than three inches (3") as determined by ASTM C 143.

2.2 Reinforcement Steel

Reinforcement bars shall conform to ASTM A 615/A 615M, ASTM A 616/A 616M, or ASTM A 617/A 617M.

2.3 FORM WORK

Form work shall be designed and constructed to ensure that the finished concrete will conform accurately to the indicated dimensions, lines, and elevations, and within the tolerances specified. Forms shall be of wood or steel, straight, of sufficient strength to resist springing during depositing and consolidating concrete.

2.3.1 Sidewalk Forms

Sidewalk forms shall be of a height equal to the full depth of the finished

sidewalk.

2.3.2 Curb and Gutter Forms

Curb and gutter outside forms shall have a height equal to the full depth of the curb or gutter. The inside form of curb shall have batter and shall be securely fastened to and supported by the outside form. Rigid forms shall be provided for curb returns, except that benders or thin plank forms may be used for curb or curb returns with a radius of 10 feet or more, where grade changes occur in the return, or where the central angle is such that a rigid form with a central angle of 90 degrees cannot be used. Back forms for curb returns may be made of 1-1/2 inch benders, for the full height of the curb, cleated together.

PART 3 EXECUTION

3.1 SUBGRADE PREPARATION

Concrete shall be placed on subgrade that is free of loose and extraneous material. The subgrade shall be in a moist condition when concrete is placed.

3.1.1 Sidewalk Subgrade

The subgrade shall be tested for grade and cross section with a template extending the full width of the sidewalk and supported between side forms.

3.1.2 Curb and Gutter Subgrade

The subgrade shall be tested for grade and cross section by means of a template extending the full width of the curb and gutter. The subgrade shall be of materials equal in bearing quality to the subgrade under the adjacent pavement.

3.1.3 Maintenance of Subgrade

The subgrade shall be maintained in a smooth, compacted condition in conformity with the required section and established grade until the concrete is placed. The subgrade shall be in a moist condition when concrete is placed. The subgrade shall be prepared and protected to produce a subgrade free from frost when the concrete is deposited.

3.2 FORM SETTING

Forms shall be set to the indicated alignment, grade and dimensions. Forms shall be held rigidly in place. 4 feet. Corners, deep sections, and radius bends shall have additional stakes and braces, as required. Clamps, spreaders, and braces shall be used where required to ensure rigidity in the forms. Forms shall be removed without injuring the concrete. Bars or heavy tools shall not be used against the concrete in removing the forms. Any concrete found defective after form removal shall be promptly and satisfactorily repaired. Forms shall be cleaned before concrete is placed.

3.3 CONCRETE PLACEMENT AND FINISHING

3.3.1 Placement

Concrete shall be placed to the section avoiding segregation of loss of ingredients.

3.3.2 Concrete Finishing

Exposed surfaces shall be floated and finished with a smooth wood float until true to grade and section and uniform in texture. Floated surfaces shall then be brushed with a fine-hair brush with longitudinal strokes. The edges shall be rounded with an edging tool to a radius of one-half inch (1/2"). The top surface of shall be finished to grade with a wood float. Finish surface shall be as indicated on the contract drawings or match adjacent concrete finish.

3.3.3 Joint Finishing

Curb edges at formed joints shall be finished as indicated or match adjacent concrete.

3.3.4 Surface and Thickness Tolerances

Finished surfaces shall not vary more than one-quarter inch (1/4") from the testing edge of a ten foot (10') straightedge. Permissible deficiency in section thickness will be up to one-quarter inch (1/4").

3.4 Reinforcement Steel Placement

Reinforcement steel shall be accurately and securely fastened in place with suitable supports and ties before the concrete is placed.

3.5 CURB AND GUTTER JOINTS

Curb and gutter joints shall be constructed at right angles to the line of curb and gutter.

3.5.1 Contraction Joints

Contraction joints shall be constructed directly opposite contraction joints in abutting portland cement concrete pavements and spaced so that monolithic sections between curb returns will not be less than 5 feet nor greater than 15 feet in length. Contraction joints shall be constructed by means of 1/8 inch thick separators and of a section conforming to the cross section of the curb and gutter. Separators shall be removed as soon as practicable after concrete has set sufficiently to preserve the width and shape of the joint and prior to finishing.

3.5.2 Expansion Joints

Expansion joints shall be formed by means of preformed expansion joint filler material cut and shaped to the cross section of curb and gutter. Expansion joints shall be provided in curb and gutter directly opposite expansion joints of abutting portland cement concrete pavement, and shall

be of the same type and thickness as joints in the pavement. Excess material on exposed surfaces of the concrete shall be removed immediately and concrete surfaces cleaned.

3.6 CURING AND PROTECTION

3.6.1 General Requirements

Concrete shall be protected against loss of moisture and rapid temperature changes for at least 7 days from the beginning of the curing operation. Unhardened concrete shall be protected from rain and flowing water. All equipment needed for adequate curing and protection of the concrete shall be on hand and ready for use before actual concrete placement begins. Protection shall be provided as necessary to prevent cracking of the pavement due to temperature changes during the curing period. Curing method shall be approved by the Contracting Officer.

3.6.2 Backfilling

After curing, debris shall be removed and the area adjoining the concrete shall be backfilled, graded, and compacted to conform to the surrounding area.

3.6.3 Protection

Completed concrete shall be protected from damage until accepted. The Contractor shall repair damaged concrete and clean concrete discolored during construction. Concrete that is damaged shall be removed and reconstructed for the entire length between regularly scheduled joints. Refinishing the damaged portion will not be acceptable. Removed damaged portions shall be disposed of as directed.

3.7 SURFACE DEFICIENCIES AND CORRECTIONS

Areas which exhibit excessive cracking, discoloration, form marks, or tool marks or which exceed plan grade, surface smoothness, or thickness tolerances shall be corrected as directed by the Contracting Officer.

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SECTION 02811

IRRIGATION SYSTEM

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 the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 53/A 53M	(2001) Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
ASTM D 1785	(1999) Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
ASTM D 2241	(2000) Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)
ASTM D 2464	(1999) Threaded Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D 2466	(1999) Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
ASTM D 2564	(1996a) Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems
ASTM D 2855	(1996) Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B1.2	(1983; R 1991; Errata May 1992) Gages and Gaging for Unified Inch Screw Threads
ASME B16.3	(1998) Malleable Iron Threaded Fittings
ASME B40.1	(1991) Gauges - Pressure Indicating Dial Type - Elastic Element

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C509 (1994; Addendum 1995) Resilient-Seated Gate Valves for Water Supply Service

FEDERAL SPECIFICATIONS (FS)

FS WW-H-001220 (Basic) Head, Sprinkler, (Underground Connected)

MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY (MSS)

MSS SP-58 (1993) Pipe Hangers and Supports - Materials, Design and Manufacture

MSS SP-69 (1996) Pipe Hangers and Supports - Selection and Application

MSS SP-80 (1997) Bronze Gate, Globe, Angle and Check Valves

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (2002) National Electrical Code

1.2 PERFORMANCE REQUIREMENTS

- a. The contractor shall provide a reclaimed water point-of-connection (POC) at Edinger Ave. SAR Station 392+85 east side of channel and as shown of the drawings. The irrigation system is designed to operate with a minimum water pressure of 90 pounds per square inch (PSI) at 240 gallons per minute (GPM) with thirty 30 PSI at last spray head in each zone. The Contractor shall coordinate the reclaimed water service connection with the local water company at this location and obtain any permits as required.
- b. The contractor shall provide points-of-connection (POC) at Yorba Linda Park SAR Station 1136+00 (Restroom #1) as shown on the drawings. The irrigation system from Restroom #1 is designed to operate with a minimum water pressure of 58 pounds per square inch (PSI) at 111 gallons per minute (GPM) with thirty (30) PSI at last bubbler head in each zone. The Contractor shall coordinate the water service connection with the maintenance personnel at Yorba Regional Park at 714-970-2168 and/or local water company at this location and obtain any permits as required.
- c. All applications, permits and fees required for establishing the reclaimed water service shall be the responsibility of the Contractor. The Contractor shall pay for all water utilized on this project for the duration of the contract.

1.3 GENERAL RECLAIMED WATER SYSTEM REQUIREMENTS (point-of-connection (POC) at Edinger Ave.)

1.3.1 Hose Bibs

Hose bibs on the reclaimed water system are strictly prohibited (point-of-connection at Edinger Ave. only).

1.3.2 Field Training

Contractor shall be responsible for training employees and subcontractors to ensure that all contractor operations personnel are familiar with the use of reclaimed water and applicable governing agencies' and/or water districts' rules and/or regulations for reclaimed water systems. A copy of these rules and regulations shall be kept on the project site during all construction activities.

1.3.3 Service Area

Reclaimed water service area shall be restricted to those areas explicitly approved by the applicable governing agencies and/or water districts.

1.3.4 Cross-Connections

Cross-connections between the reclaimed water system and any potable water system is strictly prohibited.

1.3.5 Sprinkler Heads

Contractor shall be responsible for adjusting all reclaimed water irrigation sprinklers to eliminate overspray onto non-landscaped areas including, but not limited to, buildings, sidewalks, parking lots, roads (paved and unpaved), trail systems, and flood control structures. Spray from sprinkler heads shall be limited to approved on-site reclaimed water service areas. Irrigation shall be done in a manner that will minimize runoff, pooling, and ponding.

1.3.6 System Operation

Operation of the reclaimed water system shall be limited to period of minimal use of the reclaimed water service area by the general public as designated by the applicable governing agencies and/or water districts.

1.3.7 Pressure Main Lines

All reclaimed water pressure main lines shall be installed to maintain ten feet (10') minimum horizontal and one foot (1') vertical separation from all potable water piping. Where reclaimed and potable water pressure main line cross, the reclaimed water piping shall be installed below the potable water piping in an appropriately sized Class 200 PVC pipe sleeve either purple colored (Pantone 512C) or in a conventional (white) PVC pipe sleeve taped with a three inch (3") wide purple (Pantone 512C) warning tape stating "CAUTION: RECLAIMED WATER - DO NOT DRINK". Sleeving shall be extended a minimum of five feet (5') on either side of the potable water piping. Contractor shall provide a minimum vertical clearance of twelve inches (12").

1.3.8 As-built Drawings

Contractor shall provide to the Contracting Officer, as requested, the applicable governing agencies and/or water districts a full-size mylar copy of project as-built drawings prior to the final construction date.

1.3.9 Modifications

Contractor shall obtain prior written approval from the Contracting Officer in addition to the applicable governing agencies and/or water districts for any proposed changes to the on-site reclaimed water facilities including modification of the reclaimed water service area.

1.4 REGULATORY AGENCIES

In addition to these specifications and as indicated on the contract drawings, the permanent and temporary irrigation systems shall be installed and maintained in compliance with the rules and/or regulations for reclaimed water systems as designated and monitored by the following applicable governing agencies and/or water districts that have jurisdictional authority over the associated channel reach areas and/or points-of-connection (POC). The Contractor shall coordinate, in advance, all contacts with these governing agencies and/or districts with the Contracting Officer:

1.4.1 Jurisdictional Regulatory Agencies and/or Water Districts

1.4.1.1 Mesa Consolidated Water District (MCWD)

1965 Placentia Avenue
Costa Mesa, CA 92627
P. O. Box 5008 (92628-5008)
Contact: Mr. John Carlson
714-631-1291

Irrigation Phase 4 SAR Station 290+00 to SAR Station 273+40.

1.4.1.2 City of Santa Ana, Public Works Agency

220 South Daisy Avenue
Santa Ana, CA 92703
Contact: Mr. Steve Worrall
714-647-3319

POC at Edinger Avenue SAR Station 392+85 for Phase 4 landscaping.

1.4.1.3 Yorba Linda Park Maintenance Personnel

714-970-2168

POC at Yorba Linda Park SAR Station 1136+00 (Restroom #1).

1.4.2 Reclaimed Water Governing Agencies and/or Water Districts

1.4.2.1 General

Where conflicts arise between rules and/or regulations of jurisdictional regulatory agencies/water districts and reclaimed water governing agencies/water districts, the most stringent rule and/or regulation shall apply.

1.4.2.2 Orange County Water District (OCWD)

10500 Ellis Avenue
P. O. Box 20895
Fountain Valley, CA 92728
Contact: Mr. Charles Z. Steinbergs
714-373-3229

1.4.2.3 County of Orange Health Care Agency/Public Health

2009 East Edinger Avenue
P. O. Box 355
Santa Ana, CA 92702
Contact: Mr. Martin W. Friebert
714-667-3757

1.4.2.4 California State Health Department, Department of Health Services

28 Civic Center Plaza
Santa Ana, CA 92701
Contact: Mr. Frank Hamamura
714-558-4708

1.5 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

Sprinkler System; G, RE

As-built Drawings which provide current factual information showing locations of mains, heads, valves, bubblers and controllers including deviations from and amendments to the drawings and changes in the work shall be included. Detail drawings for valves, sprinkler heads, backflow preventers, automatic controllers, bubblers and "POC". Drawings shall include a complete list of equipment and materials, and manufacturer's descriptive and technical literature, performance charts and curves, catalog cuts, and installation instructions.

SD-03 Product Data

Framed Instructions

Labels, signs, and templates of operating instructions that are required to be mounted or installed on or near the product for normal, safe operation.

Field Training

Information describing training to be provided, training aids to be used, samples of training materials to be provided, and schedules and notification of training.

Sprinkler System

Detailed procedures defining the Contractor's provisions for accident prevention, health protection, and other safety precautions for the work to be done.

SD-06 Test Reports

Field Tests

Performance test reports, in booklet form, showing all field tests performed to adjust each component; and all field tests performed to prove compliance with the specified performance criteria, upon completion and testing of the installed system. Each test report shall indicate the final position of control valves.

SD-07 Certificates

Sprinkler System

The material supplier's or equipment manufacturer's statement that the supplied material or equipment meets specified requirements. Each certificate shall be signed by an official authorized to certify in behalf of material supplier or product manufacturer and shall identify quantity and date or dates of shipment or delivery to which the certificates apply.

SD-10 Operation and Maintenance Data

Sprinkler System; G, RE

(Six) 6 copies of operation and (six) 6 copies of maintenance manuals for the equipment furnished. One complete set prior to field testing and the remainder upon acceptance. Manuals shall be approved prior to the field training course. Operating manuals shall detail the step-by-step procedures required for system startup, operation, and shutdown. Operating manuals shall include the manufacturer's name, model number, parts list, and brief description of all equipment and their basic operating features. Maintenance manuals shall list routine maintenance procedures, possible breakdowns and repairs, and troubleshooting guides. Maintenance manuals shall include piping and equipment layout,

simplified wiring and control diagrams of the system as installed, and system programming schedule.

1.6 DELIVERY AND STORAGE

All equipment delivered and placed in storage shall be protected from the weather; excessive humidity and temperature variation; direct sunlight (in the case of plastic or rubber materials); and dirt, dust, or other contaminants.

1.7 FIELD MEASUREMENTS

The Contractor shall verify all dimensions in the field and shall advise the Contracting Officer of any discrepancy before performing the work.

PART 2 PRODUCTS

2.1 GENERAL MATERIALS AND EQUIPMENT REQUIREMENTS

2.1.1 Standard Products

Materials and equipment shall be the standard products of a manufacturer who has produced similar systems which have performed well for a minimum period of two (2) years prior to bid opening. Equipment shall be supported by a service organization that is, in the opinion of the Contracting Officer, reasonably convenient to the site. As appropriate, irrigation components shall be applicable for use with reclaimed water irrigation systems.

2.1.2 Nameplates

Each item of equipment shall have the manufacturer's name, address, type or style, model or serial number, and catalog number on a plate secured to the item of equipment.

2.1.3 Extra Stock

The following extra stock shall be provided for Phase 4 irrigation: Two (2) sprinkler heads of each size and type, two (2) valve keys for operating manual valves, two (2) wrenches for removing and installing each type of head, two (2) quick coupler keys and hose swivels, four (4) irrigation controller housing keys, and four (4) controller keys. The following extra stock shall be provided for Reach 8 irrigation: Two (2) bubbler heads of each size and type, two (2) valve keys for operating manual valves, two (2) wrenches for removing and installing each type of head, two (2) quick coupler keys and hose swivels, four (4) irrigation controller housing keys, and four (4) controller keys.

2.2 PIPING MATERIALS

2.2.1 Irrigation Piping and Procedures

2.2.1.1 Lateral Lines and Fittings for Permanent Underground and Temporary On-Grade Installation

Lateral lines and fittings three inches (3") and smaller shall be Schedule 40 PVC. Irrigation piping for Phase 4 SAR Station 290+00 to SAR Station 273+40 shall be colored at the time of manufacture in a purple color (Pantone 512C) and permanently marked with five-eighths inch (5/8") black or white lettering, "CAUTION: RECLAIMED WATER - DO NOT DRINK" at twelve inches (12") on center.

2.2.1.2 Main Line and Fittings for Permanent Underground Installation

- a. Main line and fittings two and one-half inches (2-1/2") and larger shall be Class 200 PVC Ringtite. Irrigation piping for Phase 4 SAR Station 290+00 to SAR Station 273+40 shall be colored at the time of manufacture in a purple color (Pantone 512C).
- b. Main lines and fittings two inches (2") and smaller shall be Schedule 40 PVC plastic pipe with Schedule 40 fittings. Irrigation piping for Phase 4 SAR Station 290+00 to SAR Station 273+40 shall be colored at the time of manufacture in a purple color (Pantone 512C, Reclaimed Water only).
- c. Main line piping piping for Phase 4 SAR Station 290+00 to SAR Station 273+40 shall be permanently marked with five-eighths inch (5/8") black or white lettering, "CAUTION: RECLAIMED WATER - DO NOT DRINK" at twelve inches (12") on center.

2.2.2 Galvanized Steel Pipe and Associated Fittings

2.2.2.1 Pipe for Permanent Above-Ground Installation

All permanent above-ground piping shall be galvanized steel, or as shown on the contract drawings, conforming to ASTM A 53/A 53M, Schedule 40, standard weight. Phase 4 SAR Station 290+00 to SAR Station 273+40 paint pipe reclaimed water purple (Pantone 512C) with five-eighths inch (5/8") black or white lettering, on both sides of the pipe, "CAUTION: RECLAIMED WATER - DO NOT DRINK" at three feet (3') on center.

2.2.2.2 Fittings

- a. Fittings shall be Class 150 conforming to requirements of ASME B16.3. Contractor shall use non-hardening, non-toxic pipe joint sealant formulated for use on water-carrying pipes on all metal connections. Phase 4 SAR Station 290+00 to SAR Station 273+40 paint fittings to match color of pipe as described in 2.2.2.1.
- b. Pipe hangers and supports for pipe under bridges shall be in conformance with MSS SP-58.

2.2.3 Polyvinyl Chloride (PVC) Pipe, Fittings, and Solvent Cement

2.2.3.1 Pipe

- a. Pipe shall conform to the requirements of ASTM D 1785, PVC 1120 Schedule 40; or ASTM D 2241, PVC 1120 SDR 21, Class 200.

- b. All PVC pipe shall bear markings including manufacturer's name, nominal pipe size, schedule or class, pressure rating in PSI, NSF approval, and date of extrusion.

2.2.3.2 Fittings

- a. For plastic pipe: Solvent welded socket type fittings shall conform to requirements of ASTM D 2466, Schedule 40. Threaded type fittings shall conform to requirements of ASTM D 2464, Schedule 80.
- b. For Ringtite pipe: Fittings shall be Class 200 PSI PVC one(1)-piece molded rubber ring seal fittings.

2.2.3.3 Plastic Pipe Joints

Plastic pipe joints shall be solvent welded or threaded. Solvent cement shall conform to the requirements of ASTM D 2564. Use of pipe dope or solvents on threaded joints will not be permitted.

2.2.4 Sleeving Material

Pipe utilized for sleeves shall be Class 200 PVC.

2.3 MAINLINE PRESSURE REGULATOR/FILTER (STRAINER)

2.3.1 Pressure Regulator

Pressure regulator shall be of a cast iron body construction with a pressure rating of 200 PSI minimum and have a spring range capable of 80 to 85 PSI setting. Contractor to set pressure regulator in the fully open position at time of installation. The regulator shall be tapped and plugged for pressure gauge attachment.

2.3.2 Mainline Filter (Strainer)

Mainline filter (strainer) shall have a cast iron housing, fusion epoxy coating, flanged connections with machined seat in the body and tapered set in the cap for accurate screen alignment. Strainer shall have NPT blow-off connections. Filter/strainer shall have a stainless steel screen with one-sixteenth (1/16) perforations maximum with a working pressure of 175 PSI. Size shall be as noted on contract drawings.

2.4 SPRINKLER HEADS

2.4.1 Pop-Up Spray Heads

Pop-up spray heads shall conform to the requirements of FS WW-H-001220, Type II, Class A. Nozzle rises twelve inches (12") above body. Exposed "tops" of pop-up sprinkler heads shall be colored reclaimed water purple (Pantone 512C) either integrally included by the manufacturer or painted on during construction operations. Body shall contain integral pressure regulator.

2.4.2 Rotary Pop-Up Heads

Sprinklers shall be gear driven, rotary type capable of covering from fifty six feet (56') diameter to eighty-six feet (86') diameter at fifty (50) PSI with a distribution rate from 0.90 GPM to 4.2 GPM, twelve inch (12")

pop-up, trajectory of 25°. Construction shall be heavy duty ABS plastic with a choice of twelve (12) nozzles and adjustable radius capabilities. Contractor shall install a check valve on the riser below each head.

2.4.3 Bubbler Heads

Heads shall be flood bubbler with fixed flow, pressure compensating, and designed for permanent mounting in drain tubes as detailed on the contract drawings:

- a. For trees, one (1) bubbler shall be installed in drain tube as detailed on the contract drawings. Trees shall be on their own valve. Lateral length shall not exceed three-hundred feet (300') from each side of valve. Bubblers shall provide 0.50 GPM at 30 PSI at Phase 4 SAR Station 290+00 to SAR Station 273+40 and 1.00 GPM at 30 PSI at Yorba Linda Park SAR Station 1067+00 to SAR Station 1205+00.
- b. For shrubs, one (1) bubbler shall be installed in drain tube as detailed on the contract drawings. Shrubs shall be on their own valve. Contractor shall not exceed one hundred and fifty (150) bubblers for a one and one-half inch (1-1/2") valve or sixty-six (66) bubblers for a one inch (1") valve. Bubblers shall provide 0.25 GPM at 30 PSI.
- c. For vines, one (1) bubbler shall be installed in drain tube as detailed on the contract drawings. Vines shall be on their own valve. Lateral length shall not exceed three-hundred feet (300') from each side of valve. Bubblers shall provide 0.25 GPM at 30 PSI.

2.4.4 Temporary Rotary Shrub Heads

Heads shall be gear driven on fixed risers on "on-grade" lateral piping. Rotary type heads shall be capable of a distribution rate from 0.90 GPM to 4.2 GPM and a trajectory of 25°. Construction shall be heavy duty ABS plastic with a choice of twelve (12) nozzles and adjustable radius capabilities.

2.4.5 Temporary Spray Heads

Heads shall be spray nozzles or adapters installed on fixed risers on "on-grade" lateral piping. Nozzles shall be capable of covering from sixteen feet (16') diameter to thirty feet (30') diameter at thirty (30) PSI.

2.5 VALVES

2.5.1 Reclaimed Water Marking

Gate, quick coupling, remote control, and master control valves at Phase 4 SAR Station 290+00 to SAR Station 273+40 shall have a purple colored (Pantone 512C) weatherproof warning tag affixed to each valve which states,

"CAUTION: RECLAIMED WATER - DO NOT DRINK" in English and Spanish. The tag shall be three inch (3") by four inch (4") with black or white lettering and shall be affixed to the valve with a nylon tie wrap. Tags shall be as manufactured by T. Christy Enterprises at 403 West Brenna Lane, Orange, California, 714-771-4142, or approved equal

2.5.2 Gate Valves, Less than Two and One-Half Inches (2-1/2")

Gate valves shall conform to the requirements of MSS SP-80, Type 1, Class 150, threaded ends, screw-in bonnet, non-rising stem and solid wedge disc. Gate valves shall include bronze cross handles.

2.5.3 Gate Valves, Two and One-Half Inches (2-1/2") and Larger

Gate valves shall conform to the requirements of AWWA C509 and have encapsulated resilient wedge, parallel seats, non-rising stems, and open by counterclockwise turning. End connections shall be flanged. Interior construction of valves shall be bronze including stem containing a maximum two percent (2%) aluminum and maximum sixteen percent (16%) zinc.

2.5.4 Quick Coupling Valves

Quick coupling valves shall have brass parts and shall be a two(2)-piece unit with one inch (1") FIP inlet threads. The valve shall use rod brass acme threaded keys for opening and closing. All lids shall be lockable, purple colored (Pantone 512C for Phase 4 SAR Station 290+00 to SAR Station 273+40 only) vinyl with spring for positive closure on key removal. The cover shall be permanently marked with "DO NOT DRINK" in English and Spanish on the top for Phase 4 SAR Station 290+00 to SAR Station 273+40 only.

2.5.5 Remote Electric Control Valves

Remote electric control valves for Phase 4 SAR Station 290+00 to SAR Station 273+40 shall be Hardie Ultra flow 700 series with reclaimed water option, flow control feature for flow adjustment, contamination proof self-flushing nylon screen, and manual shut off, or approved equal .

Remote electric control valves for Yorba Linda Park shall be as shown on the plans, or approved equal. The contractor shall be required to re-sequence the valves (numbers) for optimum operating efficiency. All changes to shall be record in as-builds drawings.

2.5.6 Master Control Valves

- a. Master control valve shall be cast iron body with removable seat and have two (2) inlet tappings for either angle or straight installation. The internal control system of the valves must be mechanically self-cleaning and automatically self-purging without the use of screens of filters. The diaphragm assembly unit must be hydraulically balanced and be mechanically guided in all positions. Upon opening, the internal control port shall enlarge in size, to purge, and gradually reduce during closure to prevent hammer and chatter. A manual flow stem to adjust the closing speed and internal flushing must be

provided. When installed with the flow stem up, energizing and solenoid shall automatically exhaust all trapped air in the cover chamber. A drip tight, resilient seated petcock must be provided for manual opening without electricity. The solenoid pilot must be corrosion proof, molded in epoxy, and encased in brass housing.

- b. Master control valves shall be normally open.

2.6 ACCESSORIES AND APPURTENANCES

2.6.1 Valve Keys for Manually Operated Valves

Valve keys shall be one-half inch (1/2") diameter by three feet (3') long, tee handles and keyed to fit valves.

2.6.2 Valve Boxes

Valve boxes shall be plastic and lockable. Box covers for Phase 4 SAR Station 290+00 to SAR Station 273+40 shall be reclaimed water color purple Pantone 512C. Box sizes shall be adjustable for each type of valve used. Words "RECLAIMED WATER" (if applicable) and the applicable station number shall be cast on cover and painted white in compliance with OCWD rules and regulations. Shaft diameter of box shall be minimum five and one-quarter inches (5-1/4").

2.6.3 Pressure Gauges

Pressure gauges shall conform to requirements of ASME B40.1, single style pressure gauge for water with two inch (2") dial brass or aluminum case, bronze tube, gauge cock, pressure scrubber, and siphon. Scale range shall be suitable for irrigation sprinkler systems.

2.6.4 Service Clamps

Service clamps shall be bronze flat, double strap, with neoprene gasket or "O"-ring seal.

2.7 AUTOMATIC CONTROLLERS

The satellite controller(s) for Phase 4 SAR Station 290+00 to SAR Station 273+40 shall be microprocessor-based, solid-state satellite controller(s) conforming to the following:

- a. The controller(s) shall be used as a stand alone controller or as a satellite in a central control system. The controllers shall have 12, 16, 24, 32, or 40 stations, be of the same manufacturer, and be available with English and Spanish displays and manuals.
- b. The units shall have a durable, heavy duty stainless steel cabinet.
- c. The units shall require 110VAC, 1 amp input power. The step down transformer (110VAC - 26.5VAC) rated at 2.0 amp output capacity for operating a maximum of eight (8) solenoids at one (1) time. All controller(s) shall be grounded to a 5ohm or less earth ground.

- d. The solid state design units shall have a twenty-four (24) hour clock with 7-, 14-, 21-, or 28-day scheduling. The station timing shall be from one (1) minute minimum time to ninety-nine (99) minutes in one (1) minute increments and 0.1 hours to 9.9 hours in 0.1 hour increments. There shall be seven (7) regular programs plus a special syringe program.
- e. The controller(s) shall be capable of multi-station operation with a maximum of four (4) stations.
- f. Station timing may be programmed by time or real time ET in inches. There shall be a feature for defaulting to historical ET if there is not real-time ET available.
- g. Irrigation may take place in minutes, hours, applied inches, or as percentage of ET (daily or historical).
- h. Lap top interface for field up loads and down loads shall be available.
- i. The unit shall be capable of water usage summary by station, by controller, by manual, by test, and by non-controller use.
- j. Mainline break protection shall be set by program for during and off-irrigation time.
- k. The controller(s) shall have a master valve override key that allows the master valve to be opened or closed manually from one (1) to twenty-four (24) hours.
- l. With a flow sensor, the controller(s) learns flow for each station, has real-time internal flow monitoring and hydraulic limit setting. With multiple controllers, the flow sensor learns the flow for each group of valves operated simultaneously from the multiple clocks based on a maximum hydraulically acceptable flow determined by the designer.
- m. The controller(s) shall be capable of providing the following for each station: date, start time, end time, repeat cycles run, programmed minutes, actual minutes ran, actual inches applied, program name, learned flow, actual flow, manual/test minutes, hold-over time, and alert flags.
- n. All controllers shall be of the same manufacturer for Phase 4 SAR Station 290+00 to SAR Station 273+40.

The controller(s) for Yorba Linda Park shall be solid-state conforming to the following:

- a. The controller(s) shall be used as a stand alone controller. The controllers shall have 24 or 36 stations, be of the same manufacturer, and be available with English and Spanish displays and manuals as indicated on the drawings.
- b. Weather-resistant steel, locking cabinet with an internal transformer.

- c. The units shall require 110VAC, 1 amp input power. The step down transformer (110VAC - 26.5VAC) rated at 1.8 amp output capacity for operating a maximum of eight (4) solenoids at one (1) time. All controller(s) shall be grounded to a 5ohm or less earth ground.
- d. The solid state design units shall have 11 daily starts times or cycle looping option for unlimited starts. Watering schedule programmable up to 16 days. Water Budgeting : 1-255% in 1% increments. Station timing shall be from one (1) minute minimum time to ninety-nine (99) minutes in one (1) minute increments and 0.1 hours to 9.9 hours in 0.1 hour increments.
- e. All controllers shall be of the same manufacturer for Yorba Linda Park.

2.8 FLOW SENSOR

Flow sensor shall be an insertion type with a non-magnetic, spinning impeller (paddle wheel) as the only moving part. Sensor sleeve shall be 316 stainless steel with the sensor housing being glass-filled PPS. The impeller shall be glass-filled nylon with a Pennlon sleeve bearing or Tefzel with an integral bearing. The shaft material shall be tungsten carbide. The sensor will be supplied with a two inch (2") NPT adapter for installation into any commercially available weld-on fitting or pipe saddle. The adapter shall have two (2) ethylene-propylene O-rings. The sensor electronics shall be potted in an epoxy compound designed for prolonged immersion. Electrical connections shall be two (2) single conductor 18 AWG leads eighteen inches (18") long. Insulation shall be direct burial "UF" type colored red for the positive lead and black for the negative lead. Insertion of the sensor into any pipe size shall be one and one-half inches (1-1/2") from the inside wall to the end of the sensor housing. The sensor shall operate in line pressures u to 400 PSI and liquid temperatures up to 220°F and operate in flows of one foot (1') per second up to thirty feet (30') per second.

2.9 CONTROLLER ENCLOSURE CABINET

The controller enclosure shall be of a vandal and weather resistant nature manufactured entirely of stainless steel. The main housing shall be louvered upper and lower body to allow for cross flow ventilation. A stainless steel backboard shall be provided for the purpose of mounting a controller. The backboard shall be mounted on four (4) stainless steel bolts that will allow for removal of the backboard. The inside door area shall provide adequate storage for plans, operating instruction, and scheduling information. The enclosure door shall have a continuous stainless steel piano hinge on one (1) side, and a three (3) point locking mechanism on the other side. The handle controlling the locking mechanism shall be located at the base of the door and be concealed within the surface of the door. The provision for a padlock shall be included within the locking mechanism. All controller enclosures shall be keyed the same.

2.10 ELECTRICAL WORK

- a. Wiring type and rigid conduit for electrical power shall be in

accordance with NFPA 70, and SECTION 16375A ELECTRICAL DISTRIBUTION SYSTEM, UNDERGROUND

- b. Wire color shall be continuous over its entire length. Pilot wires shall be a different color for each valve. Common wires shall be white with a different color stripe for each controller.

2.11 CONCRETE MATERIALS

Concrete shall have a compressive strength of 3000 psi at twenty-eight (28) days.

2.12 TEMPORARY IRRIGATION SYSTEM (SEED MIX "A" AREAS ONLY)

2.12.1 General

- a. Temporary systems are to remain in place after completion of this contract.
- b. The following parameters shall be used for determining piping, types of heads/spacing and valve sizes.

2.12.2 Lateral Line Piping - On-Grade (temporary system)

On the downstream side of the remote control valve, lateral lines for temporary irrigation systems shall be on-grade PVC in accordance with paragraph 2.2.1.1 herein.

2.12.3 Rotary Heads/Spacing - On-Grade (temporary system)

Rotary heads shall be gear driven on fixed risers on "on-grade" lateral piping. Rotary type heads shall be capable of a distribution rate from 0.90 GPM to 4.2 GPM and a trajectory of 25°. Construction shall be heavy duty ABS plastic with a choice of twelve (12) nozzles and adjustable radius capabilities.

- a. For areas thirty-five feet (35') to forty-five feet (45') in width, head shall be a shrub rotor with a diameter range of sixty-five feet (65') to eighty-six feet (86'), part and full circle, spaced no further than forty feet (40') apart.
- b. For areas twenty-five feet (25') to thirty-five feet (35') in width, head shall be a shrub rotor with a diameter range of fifty feet (50') to seventy feet (70'), part circle, spaced no further than thirty feet (30') apart.
- c. For areas twenty feet (20') to twenty-five feet (25') in width, head shall be a shrub rotor with a diameter of fifty feet (50'), part circle, spaced no further than twenty feet (20') apart.

2.12.4 Spray Heads/Spacing - On-Grade (temporary system)

- a. Heads shall be spray nozzle on adapters installed on risers.
- b. For areas of varying width from six feet (6') to twenty-five feet

(25'), heads shall be spray nozzles, part and full circle, spaced according to the nozzle size used.

2.12.5 Valves (temporary system)

- a. Valves shall be remote control valves installed underground in valve boxes conforming to these specifications
- b. Maximum gallonage through a one inch (1") valve shall be twenty (20) GPM.
- c. Maximum gallonage through a one and one-half (1-1/2") valve shall be fifty (50) GPM.
- d. No circuit shall exceed fifty (50) GPM.

2.13 AIR AND PRESSURE RELIEF VALVE

- a. Air relief valve shall be of bronze body and cover with stainless steel linkage, Buna-N valve, stainless steel float and seat, 1" size inlet.
- b. Pressure relief valve shall be brass or bronze with a 3/4" inlet, diaphragm type with relief lever, relief setting at 150 PSI.

2.14 BOOSTER PUMP

- a. Simplex water pressure booster system as designed and fabricated by Barrett Engineered Pumps (619-232-7867, San Diego) or equal. The system shall be a completely prefabricated system with pump, piping, electrical and structural elements.
- b. Pump shall be single stage end suction close coupled centrifugal, cast iron bronze fitted construction, equipped with mechanical shaft seal, back pullout design. Impeller shall either be keyed and locked to the shaft with a hex head impeller nut and washer or shall be threaded directly to the end of the shaft. Pump shaft shall either be high strength S.A.E. 1045 carbon steel protected in the stuffing box area by a replaceable bronze shaft sleeve or shall be stainless steel with no sleeve. Pump shall be directly coupled to a C-face electric motor.
- c. Electric motor shall be of the squirrel cage induction type suitable for full voltage starting. Motor shall be ODP to aid in cooling. Electric motor shall be rated for continuous service. The motor bearings shall be of such size that the average life rating is no less than three (3) years (10,000 hours) of B10 life. The motor shall have horsepower ratings such that the motor will carry the maximum possible load to be developed under the designed pumping conditions and not overload the motor beyond the nameplate rating of the motor. Motor shall have a 1.15 service factor. The motor shall conform to the latest NEMA Standards for motor design and construction.
- d. Pump Control Panel shall have a NEMA 4X plain front non-metallic enclosure with padlock latches. Includes power and control resettable thermal circuit breakers, heavy duty magnetic starter with adjustable

overload protection, Hand-Off-Auto switch to select mode of operation, and heavy duty numbered terminal strips for power and control wiring lead terminations.

- e. Metal oxide varistor protected pump start relay(s) incorporated in panel to start pump with signal from each irrigation controller. All system piping shall be type "L" copper. All fittings shall be copper or brass, with unions or flanges to allow for system disassembly or major component removal. System shall incorporate an integral full pipe size bypass line with check valve to allow for pump removal and repair without disrupting water supply to system.
 - f. Isolation valves shall be all brass quarter turn ball valves with hard chrome ball on lines 2" and less. Isolation valves shall be lug style butterfly valves with Buna-N elastomeric seats, ductile iron nickel coated disc, and stainless steel stem with handle and 10 position galvanized memory plate on lines 2½" and greater.
 - g. Check valves shall be all brass spring loaded disc style with metal-backed Teflon wafer disc, stainless steel stem and spring on lines 2" and less. Check valves shall be cast iron bronze fitted wafer style silent check with spring loaded bronze disc, bronze guide shaft, stainless steel spring and replaceable bronze seat on lines 2½" and greater.
 - h. Gauges shall be 2½" diameter face, glycerin filled with stainless casing and brass internals. Gauges shall be equipped with brass isolation valves.
 - i. Flow activated paddle style magnetically coupled flow switch, sensitive to flows as low as 1 fps, mounted on piping and interconnected to time delay relay to shut down pump on no-flow conditions, time delay relay adjustable from 0 to 5 minutes.
 - j. Pump system shall be mounted on a structural aluminum skid with mounting flanges on front and back to allow for mounting of skid to concrete pad. Skid equipped with pipe support on suction and discharge piping. All nuts and bolts and washers to be heavy zinc coated steel on skid and piping. Skid shall include mounting hardware for integral aluminum enclosure.
 - k. The system enclosure shall be vandal and weather resistant, marine grade aluminum alloy 5052-H32 construction with rectangular punchouts for viewing and heat dissipation. The enclosure shall be low profile hinged top design with padlock provision. The cover shall be secured to the concrete pad with stainless steel hardware, located in the enclosure.
1. Pump Assembly shall include the following options:
 - 2. Hydraulically controlled, diaphragm actuated pressure-regulating valve, cast iron bronze trim with epoxy-coated body, equipped with flow clean strainer option. Valve to provide constant downstream pressure regardless of pump discharge pressure, 2" flanged.

- l. High suction pressure switch mounted on suction manifold and interconnected to time delay relay adjustable from 0 to 5 minutes to inhibit operation of pump on high suction pressure.
- m. The services of a factory representative or trained service professional shall be made available on the job site to check installation and perform the startup and instruct operating personnel. A startup report containing voltage and amperage readings, suction and discharge pressure readings, estimated flow conditions, and general operating characteristics shall be submitted to the Owner.
- n. Four sets of operating and maintenance manuals shall be provided to the owner after startup and shall include parts manuals for major components, performance curve for pump, general sequence of operation, and electrical schematic for control panel.

PART 3 EXECUTION

3.1 INSTALLATION

Sprinkler system shall be installed after site grading has been completed. Excavation, trenching, and backfilling for sprinkler system shall be in accordance with the applicable provisions of SECTION 02316A EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS AND GRADING, except as modified herein.

3.1.1 Trenching

Trenching shall be field adjusted as appropriate to eliminate existing tree root damage. When no option for trench layout is available then trench around roots shall be hand excavated to pipe grade when roots of two inches (2") diameter or greater are encountered. Trench width shall be four inches (4") minimum or one and one-half (1-1/2) times the diameter of pipe, whichever is wider. Backfill shall be hand tamped over excavation. When rock is encountered, trench shall be excavated four inches (4") deeper and backfilled with silty sand (SM) or well-graded sand (SW) to pipe grade. Trenches shall be kept free of obstructions and debris that would damage pipe. Subsoil shall not be mixed with topsoil. Existing paved areas and other obstacles shall be bored at a depth conforming to bottom of adjacent trenches. Pipe sleeves for bored pipe shall be two (2) pipe diameters larger than sprinkler pipe.

3.1.2 Piping System

3.1.2.1 Cover

Underground piping shall be installed as to meet the minimum depth of backfill cover specified or as shown on the contract drawings.

3.1.2.2 Clearances

Minimum horizontal clearances between lines shall be four inches (4") for pipe two inches (2") and less; twelve inches (12") for two and one-half inches (2-1/2") and larger. Minimum vertical clearances between lines

shall be one inch (1").

3.1.2.3 Pipe and Conduit Sleeves

Pipe and conduit sleeves shall be installed with a minimum of off-set at the joints to permit easy installation and removal of the irrigation and conduit lines. All plastic lines shall be installed in sleeves under paved areas and other structures. Sleeves shall extend at least twelve inches (12") beyond the edges of the pavement or structure. Sizes shall be:

Pipe Sizes in Inches
Minimum Sleeve Size in Inches

1/2	2
3/4	2-1/2
1 to 1-1/2	3
2 to 2-1/2	4
3 and 4	6
6	10

Number of Wires
Minimum Conduit Size in Inches

1 to 10	1
11 to 27	2
28 to 52	3

3.1.3 Piping Installation

3.1.3.1 Polyvinyl Chloride (PVC) Pipe

- a. Rubber ring seal joint shall be factory-made male end or prepared field-cut male end to exact specifications of factory-made end. Carefully clean bell or coupling and insert rubber ring without lubricant. Position ring carefully according to manufacturer's instructions. Lubricate male end according to manufacturer's instructions and insert male end to specified depth. Use hands only when inserting PVC pipe. Thrust blocks shall be provided where necessary to resist system pressure on Ringtite pipe and fittings. Blocks shall be concrete and the size shall be based on an average soil safe bearing load of 1,000# per square foot. Form thrust block in such a manner that concrete comes in contact only with the fittings. Thrust blocks shall be between solid soil and the fitting.
- b. Solvent-cemented joints shall conform to the requirements of ASTM D 2855.
- c. Threaded joints shall be full cut with a maximum of three (3) threads

remaining exposed on pipe and nipples. Threaded joints shall be made tight without recourse to wicks or fillers, other than polytetrafluoroethylene thread tape.

- d. Piping shall be joined to conform with requirements of ASTM D 2855, and pipe manufacturer's instructions. Pipe shall be installed in a serpentine (snaked) manner to allow for expansion and contraction in trench before backfilling. Pipes shall be installed at temperatures over 40° F.
- e. Install pipe with all markings pointing up for visual inspection and verification.
- f. Pipe shall be kept free from dirt and pipe scale. Pipe ends shall be cut square.

3.1.3.2 Threaded Galvanized Steel Pipe

- a. Prior to installation, pipe shall be reamed. Threads shall be cut in conformance with ASME B1.2. Pipe joint compound shall be applied to male end only.
- b. Galvanized steel pipe for permanent underground installation shall be painted with two (2) coats of Koppers #50 bitumastic, or approved equal, or wrapped with 2 mil thick black plastic insulating tape as manufactured by 3M Company or approved equal.
- c. Pipe attachment installation under bridges shall be in conformance with MSS SP-69 and as directed by the Contracting Officer.

3.1.3.3 Insulating Joints

Insulating and dielectric fittings shall be provided where pipes of dissimilar metal are joined and at connections to water supply mains as shown.

3.1.4 Valves and Valve Boxes

- a. Valves, all types, shall be installed as detailed on the contract drawings.
- b. Valve boxes shall be individually provided for each gate valves, quick coupling valves, remote control valves, and master control valves.
- c. Only one (1) valve shall be installed in a valve box, extending from grade to below valve body, with a minimum of four inches (4") cover measured from finish grade to top of valve stem.
- d. Master control valve(s) and flow sensor(s) shall be installed per point-of-connection (POC) as detailed on the contract drawings.

3.1.5 Sprinkler Heads and Valves

Sprinkler heads and valves shall be installed plumb and level with terrain.

3.1.6 Mainline Pressure Regulator/Filter (Strainer)

Contractor shall install a pressure regulator and filter (strainer) at each point-of-connection (POC) on a concrete pad in a stainless steel LeMeur enclosure, or approved equal.

3.1.7 Flow Sensor

Contractor shall install flow sensor(s) at each point-of-connection (POC) as detailed on the contract drawings. There are two (2) flow sensors at each POC. One (1) for each branch of the mainline as it is divided at the water meter. The one flow sensor on the right branch shall be wired to the closest controller on that right branch. This flow sensor is to be wired to only that one controller on that branch of the mainline. The second flow sensor on the left branch of the mainline shall be wired to the closest controller on the left branch. This flow sensor is to be wired to only that one controller on that branch of the mainline. Maximum run of wire shall be 1,500 feet between flow sensor and controller.

3.1.8 Control Wire and Conduit

3.1.8.1 Wires

Low voltage wires may be buried beside pipe in same trench. Rigid conduit shall be provided where wires run under paving. Wires shall be number tagged at key locations along main to facilitate service. One (1) control circuit shall be provided for each zone and a circuit to control sprinkler system. Wires shall be #10 common and #12 control with UL approval for direct burial.

3.1.8.2 Loops

A thirty six inch (36") loop of wire shall be provided at each valve where controls are connected.

3.1.8.3 Expansion and Contraction

Multiple tubes or wires shall be bundled and taped together at ten foot (10') intervals with twelve inch (12") loop for expansion and contraction.

3.1.8.4 Splices

Electrical splices shall be waterproof.

3.1.9 Automatic Controllers

- a. Exact field location of controllers shall be determined before installation. Coordinate the electrical service to these locations with the electrical provider. Install in accordance with manufacturer's recommendations and NFPA 70.
- b. A reclaimed water warning label for Phase 4 SAR Station 290+00 to SAR Station 273+40 shall be attached to the inside and outside of the

controller enclosure. The label shall have purple background (Pantone 512C) and shall state "ATTENTION - CONTROLLER UNIT FOR RECLAIMED WATER" in English and Spanish. The Orange County Water District (OCWD) may supply the warning labels for installation by the Contractor.

3.1.10 Thrust Blocks

Concrete shall be placed so that sides subject to thrust or load are against undisturbed earth, and valves and fittings are serviceable after concrete has set.

3.1.11 Backfill

3.1.11.1 Minimum Cover

Depth of cover shall be twelve (12") for all lateral lines; twenty-four inches (24") for all main lines; thirty-six inches (36") for pipes under traffic loads; and twenty-four inches (24") for low-voltage wires. Remainder of trench or pipe cover shall be filled to within three inches (3") of top with excavated soil, and compact soil with plate hand-held compactors to same density as undisturbed adjacent soil.

3.1.11.2 Restoration

Top three inches (3") shall be filled with topsoil and compacted with same density as surrounding soil. Seeded areas and plants shall be restored in accordance with Section 02921a, HYDROSEEDING, and Section 02930A, EXTERIOR PLANTING

3.1.12 Adjustment

After grading, seeding, and rolling of planted areas, sprinkler heads shall be adjusted flush with finished grade. Adjustments shall be made by providing new nipples of proper length or by use of heads having an approved device, integral with head, which will permit adjustment in height of head without changing piping.

3.1.13 Cleaning of Piping

Prior to the hydrostatic and operation tests, the interior of the pipe shall be flushed with clean water until pipe is free of all foreign materials. Flushing and cleaning out of system pipe, valves, and components shall not be considered completed until witnessed and accepted by Contracting Officer.

3.2 FIELD TESTS

All instruments, equipment, facilities, and labor required to conduct the tests shall be provided by Contractor.

3.2.1 Cross-Connection Control and Operational Test

- a. Contractor shall perform a cross-connection control test and operational test prior to connecting the on site reclaimed water system

to the reclaimed water service connection.

- b. The cross-connection control test shall be conducted by the OCWD, the County Health Department, and the applicable jurisdictional regulatory agency/water district. The test shall consist of shutting down any on site potable water and reclaimed water systems to confirm the physical separation of the reclaimed water system from the potable water system. The exact testing procedures shall be developed by the applicable governing agency/water district.
- c. The operational test shall consist of a coverage test of the on site reclaimed water irrigation system to ensure that overspray and runoff is controlled.

3.2.2 Hydrostatic Pressure Test

Piping shall be tested hydrostatically before backfilling and proved tight at a hydrostatic pressure of 150 psi without pumping for a period of one hour with an allowable pressure drop of five (5) psi. If hydrostatic pressure cannot be held for a minimum of four (4) hours, Contractor shall make adjustments or replacements and the tests repeated until satisfactory results are achieved and accepted by the Contracting Officer.

3.2.3 Operation Test

At conclusion of pressure test, bubblers, sprinkler heads, and quick coupling assemblies shall be installed and entire system tested for operation under normal operating pressure. Operation test consists of the system operating through at least one complete programmed cycle for all areas to be irrigated.

3.2.4 Booster Pump Installation

Concrete slab shall be poured in place 6 inches thick, meet ASTM C-94, ACI std. 318-83 design mix, 2500 psi requirements. Contractor shall secure the pump assemble to the concrete slab with 4 approve concrete bolts cast into the slab.

Contractor shall extend electrical power to pump per plans, connect electrical lines to the pump and test for proper operation of the pump.

3.2.5 Booster Pump Test

The booster pump assembly shall be tested for proper electrical connections, pressure boost requirements, controllers and master valve coordination and passing all City/County building code requirements. If test fails the contractor shall be responsible for making all corrections and retesting until approved by the Contracting Officer.

3.3 POSTING FRAMED INSTRUCTIONS

Framed instructions containing wiring and control diagrams under glass or in laminated plastic shall be posted where directed. Condensed operating instructions, prepared in typed form, shall be framed as specified above

and posted beside the diagrams. The framed instructions shall be posted before acceptance testing of the system. After as-built drawings are approved by Contracting Officer, controller charts and programming schedule shall be prepared. One (1) chart for each controller shall be supplied. Chart shall be a reduced drawing of actual as-built system that will fit the maximum dimensions inside controller housing. Black line print for chart and a different pastel or transparent color shall indicate each station area of coverage. After chart is completed and approved for final acceptance, chart shall be sealed between two (2) 20 mil pieces of clear plastic.

3.4 CLEANUP

Upon completion of installation of system, all debris and surplus materials resulting from the work shall be removed.

3.5 MAINTENANCE

Contractor shall maintain all irrigation systems and components in good working order including temporary, permanent, and reclaimed water point-of-connection facilities (meter and the like) for the length of this contract.

-- End of Section --

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SECTION 02921

HYDROSEEDING

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.

U.S. DEPARTMENT OF AGRICULTURE (USDA)

AMS Seed Act (1995) Federal Seed Act Regulations Part 201

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 4972 (1995a) pH of Soils

ASTM D 5268 (1992; R 1996) Topsoil Used for Landscaping Purposes

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

Equipment

A listing of equipment to be used for the seeding operation.

Delivery

Delivery schedule.

Topsoil; G, RE

Topsoil from the stripping and stock piling operation.

Quantity Check; G, RE

Bag count or bulk weight measurements of material used compared with area covered to determine the application rate and quantity installed.

Seed Establishment Period; G, RE

Calendar time period for the seed establishment period. When there is more than one seed establishment period, the boundaries of the seeded area covered for each period shall be described.

Maintenance Record; G, RE

Maintenance work performed, area repaired or reinstalled, diagnosis for unsatisfactory stand of seeded plants.

Maintenance Plan; G, RE

Maintenance plan indicating the contractor's method(s) to establish a healthy stand of native plants. Provide a temporary irrigation system layout plan and indicate method(s) of water application and maintenance required to meet specification. The maintenance plan shall cover one year of plant establishment and shall include a watering and maintenance schedule.

Application of Pesticide; G, RE

Pesticide treatment plan with sequence of treatment work with dates and times. The pesticide trade name, EPA registration number, chemical composition, formulation, concentration of original and diluted material, application rate of active ingredients, method of application, area treated, amount applied; and the name and state license number of the state certified applicator shall be included.

Wood cellulose fiber mulch and tackifier; G, RE

Application rates recommended by the manufacture.

SD-04 Samples

Delivered Topsoil; G, RE

Samples taken from several locations at the source.

Soil Amendments; G, RE

A 5 lbs sample.

Mulch; G, RE

A 5 lbs sample.

SD-06 Test Reports

Equipment Calibration; G, RE

Certification of calibration tests conducted on the equipment used in the seeding operation.

Soil Test; G, RE

Certified reports of inspections and laboratory tests, prepared by an independent testing agency, including analysis and interpretation of test results. Each report shall be properly identified. Test methods used and compliance with recognized test standards shall be described.

SD-07 Certificates

Seed; G, RE
Topsoil; G, RE
pH Adjuster
Fertilizer
Soil Conditioner
Mulch
Pesticide; G, RE

Prior to the delivery of materials, certificates of compliance attesting that materials meet the specified requirements. Certified copies of the material certificates shall include the following:

- a. Seed. Classification, botanical name, common name, percent pure live seed, minimum percent germination and hard seed, maximum percent weed seed content, and date tested.
- b. Topsoil. Particle size, pH, organic matter content, textural class, soluble salts, chemical, mechanical and plant growth analyses.
- c. pH Adjuster. Calcium carbonate equivalent and sieve analysis.
- d. Fertilizer. Chemical analysis and composition percent.
- e. Soil Conditioner: Composition and source.
- f. Mulch: Composition and source.
- g. Pesticide. EPA registration number and registered uses.

1.3 SOURCE INSPECTION

The source of delivered topsoil shall be subject to inspection.

1.4 DELIVERY, INSPECTION, STORAGE, AND HANDLING

1.4.1 Delivery

A delivery schedule shall be provided at least 10 calendar days prior to the first day of delivery.

1.4.1.1 Delivered Topsoil

Prior to the delivery of any topsoil, its availability shall be verified in paragraph TOPSOIL. A soil test shall be provided for topsoil delivered to the site.

1.4.1.2 Soil Amendments

Soil amendments shall be delivered to the site in the original, unopened containers bearing the manufacturer's chemical analysis. In lieu of containers, soil amendments may be furnished in bulk. A chemical analysis shall be provided for bulk deliveries.

1.4.1.3 Pesticides

Pesticide material shall be delivered to the site in the original, unopened containers bearing legible labels indicating the EPA registration number and the manufacturer's registered uses.

1.4.2 Inspection

Seed shall be inspected upon arrival at the job site for conformity to species and quality. Seed that is wet, moldy, or bears a test date five months or older, shall be rejected. Other materials shall be inspected for compliance with specified requirements. The following shall be rejected: open soil amendment containers or wet soil amendments; topsoil that contains slag, cinders, stones, lumps of soil, sticks, roots, trash or other material over a minimum 1-1/2 inch diameter; and topsoil that contains viable plants and plant parts. Unacceptable materials shall be removed from the job site.

1.4.3 Storage

Materials shall be stored in designated areas. Seed and fertilizer shall be stored in cool, dry locations away from contaminants. Chemical treatment material shall be stored according to manufacturer's instructions and not with seeding operation materials.

1.4.4 Handling

Except for bulk deliveries, materials shall not be dropped or dumped from vehicles.

1.4.5 Time Limitation

- a. Hydroseed slurry mixture for Seed Mix "A" which has not been applied within twenty (20) minutes after mixing shall be rejected and replaced at the Contractor's expense.
- b. Hydroseed slurry mixture for Seed Mix "B" which has not been applied within four (4) hours after mixing shall be rejected and replaced at the Contractor's expense.

PART 2 PRODUCTS

2.1 SEED

2.1.1 Seed Classification

State-certified seed of the latest season's crop shall be provided in original sealed packages bearing the producer's guaranteed analysis for percentages of mixture, purity, germination, hard seed, weed seed content, and inert material. Labels shall be in conformance with AMS Seed Act and applicable state seed laws.

2.1.2 Native Seed Species and Mixtures

Native seed species and mixtures shall be as follows:

Pure Live Seed (PLS)

Botanical Name	Common Name	In Pounds Per Acre
SEED MIX "A":		
Bromus carinatus	California Brome	2.0
Camissonia cheiranthifolia	Beach Evening Primrose	1.5
Clarkia bottae	Showy Farewell-to-Spring	1.5
Encelia californica	Bush Sunflower	0.2
Encelia farinosa	Desert Encelia	0.5
Eriogonum fasciculatum	California Buckwheat	0.5
Eschscholzia californica	California Poppy	2.0
Festuca rubra molate	Native Red Fescue	6.0
Hordeum californicum	California Barley	9.0
Lasthenia californica	Goldfields	0.5
Layla platyglossa	Tiddy Tips	1.0
Linum lewesii	Blue Flax	4.0
Lupinus succulentus	Arroyo Lupine	2.0
Nassella pulchra	Purple Neeple Grass	4.0
Salvia apiana	White Sage	0.2
Sisyrinchium bellum	Blue-eyed Grass	2.0
Vulpia myuros "Zorro"	Zorro Fescue	<u>4.0</u>
TOTAL PLS in LBS/ACRE		40.9

SEED MIX "B":

Artemisia californica	California Sagebrush	0.2
Camissonia cheiranthifolia	Beach Evening Primrose	0.8
Collinsia heterophylla	Chinese Houses	2.0
Encelia californica	Bush Sunflower	0.7
Encelia farinosa	Desert Encelia	4.0
Eriogonum fasciculatum	California Buckwheat	2.0

Eriogonum giganteum	St. Catherines Lace	2.0
Eriodycton crassifolium	Thick-Leaf Yerba Santa	0.4
Eriophyllum confertifolium	Golden Yarrow	0.5
Eschscholzia californica	California Poppy	2.0
Iva hayesiana	Poverty Weed	1.0
Lasthenia glabrata	Goldfields	1.5
Lotus scoparius	Deerweed	4.5
Lupinus succulentus	Arroyo Lupine	3.0
Mimulus puniceus	Mission Red-Monkey Flower	0.05
Plantago insularis	Plantain	20.0
Salvia apiana	White Sage	0.7
Salvia mellifera	Black Sage	0.7
Sisyrinchium bellum	Blue-Eyed Grass	2.0
Vulpia myuros "Zorro"	Zorro Fescue	<u>4.0</u>
TOTAL PLS in LBS/ACRE		52.05

2.1.3 Seed Quality

- a. Weed seed shall not exceed one percent (1%) by weight of the total mixture. Wet, moldy, or otherwise damaged seed shall be rejected.
- b. Native plant seed shall have been inoculated with mycorrhizal fungi prior to purchase.

2.1.4 Seed Mixing

The mixing of seed may be done by the seed supplier prior to delivery, or on site as verified by the Contracting Officer.

2.1.5 Substitutions

Substitutions will not be allowed without written request and approval from the Contracting Officer. The contractor shall make all arrangements with the seed vendor(s) to hold the required amount of seeds needed for the project. The contractor shall verify and secure from the seed vendor(s) the required native seed species and quantity no later than 160 days or sooner prior to seeding operations.

2.2 TOPSOIL

Topsoil shall be as defined in ASTM D 5268. When additional topsoil is required beyond the available topsoil, the topsoil shall be delivered and amended as recommended by the soil test(s) for the seed specified. The contractor shall pay for all soils tests as directed by the Contracting Officer. Topsoil shall be free from slag, cinders, stones, lumps of soil, sticks, roots, trash or other material over a minimum 3 inches in diameter. Topsoil shall be free from viable plants and plant parts.

2.3 SOIL AMENDMENTS

Soil amendments shall consist of pH adjuster, fertilizer, and soil conditioner meeting the following requirements. Vermiculite shall not be used.

2.3.1 pH Adjuster

The pH adjuster shall not be less than 99 percent elemental sulfur. The pH adjuster shall be used to create a favorable soil pH for the plant material specified.

2.3.2 Fertilizer

Fertilizer shall be commercial grade, free flowing, uniform in composition, and consist of a nitrogen-phosphorus-potassium ratio. The fertilizer shall conform to applicable State and Federal regulations and shall bear the manufacturer's guaranteed statement of analysis.

Fertilizer 1:

Nitrogen	5%
Phosphoric Acid	3%
Water Soluble Potash	1%
Humus (composted organic and mineral matter)	50%
Humic Acids (derived from compost)	15%
Soluble Metallic Iron	1%

Fertilizer 2 based in a four (4) to six (6) month release form:

Coated Slow Release Nitrogen*	9%
Urea Nitrogen	2%
Available Phosphoric Acid**	8%
Soluble Potash***	8%
Humus (composted organic and mineral matter)	25%
Humic Acid (derived from compost)	5%
Iron (derived from iron sulfate)	2%
Manganese (derived from manganese sulfate)	.05%
Zinc (derived from zinc sulfate)	.05%
Sulfur	7%

* derived from sulfur coated urea (controlled release)

** derived from triple super phosphate

*** derived from compost and muriate of potash

2.3.3 Agricultural Gypsum

Agricultural gypsum shall be commercially packaged, free flowing, of a finely ground form and an agricultural grade, minimum ninety-two percent (92%) calcium sulfate by volume, free of any toxic material. One-hundred percent (100%) of the ground material shall pass through a ten (10) mesh screen and at least fifty percent (50%) of the material shall pass through a 100-mesh screen.

2.3.4 Agricultural Sulfur

Agricultural sulfur shall be first quality commercial grade, commercially packaged, free flowing, of a flour of sulfur finely ground form.

2.3.5 Decomposed Wood Derivatives

Decomposed wood derivatives shall be rotted sawdust that is free of stones, sticks, soil, and toxic substances harmful to plants, and is fully composted. Rotted sawdust shall be stabilized with 7.5 pounds of nitrogen added uniformly to each cubic yard of material.

2.3.6 Wood Cellulose Fiber

Wood cellulose fiber for use with hydraulic application of seed shall consist of specially prepared wood cellulose fiber processed to contain no growth or germination-inhibiting factors and dyed an appropriate color to facilitate visual monitoring of the application of materials (sawdust or grass clippings are not acceptable fibers). On an air-dry weight basis, the wood cellulose fiber shall contain a maximum of twelve percent (12%) moisture, plus or minus three percent (3%) at the time of manufacture. The pH range shall be between 4.5 and 6.5.

2.4 WATER

Water for native seeding and plant establishment shall be the responsibility of the Contractor, unless otherwise noted. The contractor shall pay all water cost. Water shall not contain elements toxic to plant life.

2.4 PESTICIDE

Pesticide shall be insecticide, herbicide, fungicide, nematocide, rodenticide or miticide. For the purpose of this specification, a soil fumigant shall have the same requirements as a pesticide. The pesticide material shall be EPA registered and approved.

PART 3 EXECUTION

3.1 INSTALLING SEED TIME AND CONDITIONS

3.1.1 Seeding Time

Seed shall be installed from 1 October to 31 January.

3.1.2 Seeding Conditions

Seeding operations shall be performed only during periods when beneficial results can be obtained. When drought, excessive moisture, or other unsatisfactory conditions prevail, the work shall be stopped when directed.

A time variance to the seeding operations will not be allowed, unless approved by the Contracting Officer.

3.1.3 Equipment Calibration

Immediately prior to the commencement of seeding operations, calibration tests shall be conducted on the equipment to be used. These tests shall confirm that the equipment is operating within the manufacturer's specifications and will meet the specified criteria. The equipment shall be calibrated a minimum of once every day during the operation. The calibration test results shall be provided within 1 week of testing.

3.1.4 Soil Test

Delivered topsoil, existing soil in smooth graded areas, and stockpiled topsoil shall be tested in accordance with ASTM D 5268 and ASTM D 4972 for determining the particle size, pH, organic matter content, textural class, chemical analysis, soluble salts analysis, mechanical and plant growth analysis. Sample collections on site shall be random over the entire site.

Sample collections for stockpiled topsoil shall be at different levels in the stockpile. Three (3) samples shall be tested and the locations shall be determined by the Contracting Officer. The planting soil shall be free from debris, noxious weeds, toxic substances, or other materials harmful to plant growth. The test of stockpiled topsoil shall determine if additional quantities of soil amendments and soil conditioners are required to meet local growing conditions for the seed species specified.

3.2 SITE PREPARATION

3.2.1 Finished Grade and Topsoil

The Contractor shall verify that finished grades are as indicated on drawings, and the placing of topsoil, smooth grading, and compaction requirements have been completed in accordance with Section 02316A EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS AND GRADING, prior to the commencement of the seeding operation.

Hydroseeded (and planted) areas shall be filled or have surplus soil removed for repair of erosion or other grade deficiencies to attain a smooth finished soil surface. Drainage patterns shall be maintained. Imported topsoil used for repair of erosion or grade deficiencies shall conform to "topsoil" requirements.

3.2.2 Application of Soil Amendments

Fertilizer and soil amendments shall be incorporated into the soil as part of the tillage operation to the depth of tillage at the following rates per 1,000 square feet of hydroseeded area and watered in thoroughly such that soils are wet to a minimum depth of twelve inches (12") at least once prior to hydroseeding/planting operations:

a. for 2:1 or less slopes:

150 pounds	Fertilizer 1
30 pounds	Fertilizer 2
40 pounds	Agricultural Gypsum
20 pounds	Agricultural Sulfur

b. for 2:1 or more slopes:

90 pounds	Fertilizer 1
20 pounds	Fertilizer 2
28 pounds	Agricultural Gypsum
12 pounds	Agricultural Sulfur

3.2.3 Tillage

- a. Tillage shall be accomplished by plowing, disking, harrowing, rototillage machinery, or other approved operations until the condition of the soil is acceptable. Undulations or irregularities in the surface shall be leveled before the next specified operations.
- b. Slopes up to a 2:1 (horizontal:vertical ratio) shall be tilled to a depth of at least six inches (6").
- c. Slopes between a 2:1 (horizontal:vertical ratio) and 1:1 shall be tilled to a depth of at least two inches (2").
- d. Slopes steeper than 1:1, shall be hand raked to a depth of at least one inches (1").

3.2.4 Prepared Surface

3.2.4.1 Preparation

The prepared surface shall be a maximum 1 inch below the adjoining grade of any surfaced area. New surfaces shall be blended to existing areas. The prepared surface shall be completed with a light raking to remove debris.

3.2.4.2 Debris

Debris over a minimum 2 inch in any dimension shall be removed from the surface. Rocks and stones may remain in the surface soil at the discretion of the Contracting Officer.

3.2.4.3 Protection

Areas with the prepared surface shall be protected from compaction or damage by vehicular or pedestrian traffic and surface erosion.

3.3 INSTALLATION

Prior to installing seed, any previously prepared surface compacted or damaged shall be reworked to meet the requirements of paragraph SITE PREPARATION. Seeding operations shall not take place when the wind velocity will prevent uniform seed distribution.

3.3.1 Installing Seed

Seeding method shall be by Hydroseeding. Seeding procedure shall ensure even coverage.

3.3.1.1 Broadcast Seeding

Broadcast Seeding shall be for seed re-establishment. Seed shall be uniformly broadcast at the rate shown per acre using broadcast seeders. Half the total rate of seed application shall be broadcast in 1 direction, with the remainder of the seed rate broadcast at 90 degrees from the first direction. Seed shall be covered a maximum 1-1/2" by raking, or other approved device. After the seed have been covered the area shall be mulch

with 2" of decomposed wood derivatives. Equipment used for broadcast seeding shall be approved by the contracting officer.

3.3.1 Application Operations

Slurry shall be uniformly applied in the following two (2) step process under pressure over the entire area utilizing a sweeping arched stream motion allowing the fiber to build on itself until a uniform coat is achieved. Both operations shall be completed for a particular area in one (1) working day. The hydroseeded area shall not be rolled.

- a. Seed mixture and one-third (1/3) of the wood cellulose fiber mulch and tackifier shall be added to the appropriate amount of water, thoroughly mixed to produce a homogeneous slurry, and be applied to designated areas.
- b. After the initial spraying, the Contractor shall then mix the remaining two-thirds (2/3) of the wood cellulose fiber mulch and tackifier with the appropriate amount of water, thoroughly mixed to produce a homogeneous slurry, and apply to designated areas.

Slurry shall be allowed to dry for approximately two (2) hours and then immediately commence syringe irrigation to germinate seed. Water shall be applied at a rate sufficient to ensure continuously moist soil conditions to a minimum depth of one inch (1"). Run-off and puddling shall be prevented.

3.3.2 Wood cellulose fiber mulch and tackifier

Wood cellulose fiber, paper fiber, or recycled paper shall be applied as part of the two step hydroseeding operation. The mulch and tackifier shall be mixed and applied in accordance with the manufacturer's recommendations.

3.3.3 Watering Seed

The contractor shall submit an approved Maintenance Plan prior to start of seeding operation. Watering shall be started immediately after completing the seeding of an area. Water shall be applied to supplement rainfall at a rate sufficient to ensure moist soil conditions to a minimum 1 inch depth. Run-off and puddling shall be prevented. Watering trucks shall not be driven over seeded areas, unless otherwise approved by the Contracting Officer. Truck route shall be shown on the Maintenance Plan. Watering of other adjacent areas or plant material shall be prevented.

3.4 QUANTITY CHECK

For materials provided in bags, the empty bags shall be retained for recording the amount used. For materials provided in bulk, the weight certificates shall be retained as a record of the amount used. The amount of material used shall be compared with the total area covered to determine the rate of application used. Differences between the quantity applied and the quantity specified shall be adjusted as directed.

3.5 APPLICATION OF PESTICIDE

When application of a pesticide becomes necessary to remove a pest or disease, a pesticide treatment plan shall be submitted and coordinated with the installation pest management program.

A state certified applicator shall apply required pesticides in accordance with EPA label restrictions and recommendations. Clothing and personal protective equipment shall be used as specified on the pesticide label. A closed system is recommended as it prevents the pesticide from coming into contact with the applicator or other persons. Water for formulating shall only come from designated locations. Filling hoses shall be fitted with a backflow preventer meeting local plumbing codes or standards. Overflow shall be prevented during the filling operation. Prior to each day of use, the equipment used for applying pesticide shall be inspected for leaks, clogging, wear, or damage. Any repairs are to be performed immediately. A pesticide plan shall be submitted.

3.6 Weed Abatement

Irrigation system installation, tillage operations, and finish grade shall be completed and approved prior to weed abatement operations. Contractor shall then perform a two (2) step procedure as follows:

- a. Contractor shall operate the irrigation system to keep hydroseeded areas uniformly moist for a period of three (3) weeks. At the end of the three (3) week period, Contractor shall spray all visible weeds with a contact herbicide. Application method shall be as recommended by manufacturer. After spraying, areas shall remain unwatered for a minimum of forty-eight (48) hours. Contractor shall then remove the weeds from the project.
- b. Contractor shall water seven (7) additional consecutive calendar days from the first application of herbicide, and apply a contact herbicide. After the second spraying, water shall not be applied for an additional forty-eight (48) hour period. Contractor shall then remove the weeds from the project and commence hydroseeding operations.

3.7 RESTORATION AND CLEAN UP

3.7.1 Restoration

Seeded areas, pavements, and facilities that have been damaged from the seeding operation shall be restored to original condition at Contractor's expense.

3.7.2 Clean Up

Excess and waste material shall be removed from the seeded areas and shall be disposed offsite on a daily bases. Adjacent paved areas shall be cleaned

3.8 PROTECTION OF INSTALLED AREAS

Immediately upon completion of the seeding operation in an area, the area shall be protected against traffic or other use by erecting barricades and

providing signage as required, or as directed. Signage shall be in accordance with this specifications.

3.9 SEED ESTABLISHMENT PERIOD

3.9.1 Commencement

The plant establishment period to obtain a healthy stand of plants shall begin after seeding operation have been completed and approved by the contracting Officer. The seed establishment period shall be 1 year from the date of Contracting Officer's approval. Written calendar time period shall be furnished for the seed establishment period. When there is more than 1 seed establishment period, the boundaries of the seeded area covered for each period shall be described. The seed establishment period shall be modified for inclement weather, shut down periods, or for separate completion dates of areas.

3.9.2 Proper Stand of Hydroseed

An acceptable healthy hydroseed condition is defined as follows:

- a. SEED MIX "A" shall have a solid soil surface growth ground covering with bare spots no larger than four inches (4") square and with barren areas not exceeding two percent (2%) of the total seeded area.
- b. SEED MIX "B" shall have a solid soil surface growth ground covering with bare spots no larger than six inches (6") square and with barren areas not exceeding four percent (4%) of the total seeded area. Within this growth covering there shall be at least one (1) woody type plant species from the required seed mix (or as supplemented by planted stock) per twenty-four inches (24") square over the entire seeded area.

3.9.3 Maintenance During Establishment Period

Maintenance of the seeded areas shall include eradicating weeds, insects and diseases; protecting seeded areas from surface erosion; maintaining slopes to design conditions; protecting installed areas from traffic; trash removal; watering; and post-fertilization. Weeds shall be removed as soon as possible and as directed by the Contracting Officer. The contractor shall provide sufficient work force to remove weeds on a daily bases.

3.9.4 Maintenance Plan

The contractor shall provide an approved plan for watering and maintenance requirements to establish a healthy stand of native plants. The contractor shall provide a temporary irrigation system plan with irrigation lines, valves and equipment layout for approval. Other method(s) of water application shall be approved by the Contracting Officer. The contractor shall provide a plan for maintenance in accordance with 3.9.3 Maintenance During Establishment Period.

3.9.5 Post-Fertilization

- a. Forty-five(45)calendar days after commencement of establishment, Fertilizer 1 shall be general broadcast over all seeded areas at the rate of twenty-five (25) pounds per 1,000 square feet and thoroughly irrigated into soils immediately after application.
- b. Fertilizer 2, in the four (4) to six (6) month release formulation shall be broadcast over all seeded areas at the rate of fifteen (15) pounds per 1,000 square feet between day 100 and day 110 and thoroughly irrigated into soils immediately after application. This application is in addition to the forty-five (45) day application.
- c. Fertilizer 1 shall be general broadcast over all planting areas at the rate of twenty-five (25) pounds per 1,000 square feet at the end of the Establishment Period.
- d. Areas hydroseeded with Seed Mix "B" shall not be fertilized again at any time after installation.

3.9.6 Pesticide Treatment

Treatment for disease or pest shall be in accordance with paragraph APPLICATION OF PESTICIDE.

3.9.7 Repair or Reestablishment

Unsatisfactory stand of native plants and mulch shall be repaired or reinstalled. Truck routes and eroded areas shall be repaired in accordance with paragraph SITE PREPARATION and per 3.3.1.1 Broadcast Seeding.

3.8.8 Maintenance Record

A written record shall be furnished to the Contracting Officer describing the maintenance work performed; day and amount of water applied, areas weeded, areas repaired or reinstalled; and diagnosis for unsatisfactory stand of grass plants.

3.10 FINAL ACCEPTANCE

3.10.1 Preliminary Inspection

Prior to the completion of the establish period, a preliminary inspection shall be held by the Contracting Officer. Time for the inspection shall be establish in writing. The acceptability of the seeded areas in accordance with the specification shall be determined. An unacceptable stand of hydroseeded area shall be replanted per 3.3.1.1 Broadcast Seeding and as directed by the Contracting Officer as soon as seeding conditions permit.

3.10.2 Final Inspection

A final inspection shall be held by the Contracting Officer to determined that the deficiencies noted in the preliminary inspection have been corrected. Time for the final inspection shall be in writing.

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SECTION 02930A

EXTERIOR PLANTING

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 NURSERY AND LANDSCAPE ASSOCIATION (ANLA)

ANLA Z60.1 (1996) Nursery Stock

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 4972 (1995a) pH of Soils

ASTM D 5268 (1992; R 1996) Topsoil Used for
Landscaping Purposes

COMMERCIAL ITEM DESCRIPTIONS (CID)

CID A-A-1909 (Basic; Notice 1) Fertilizer

FEDERAL SPECIFICATIONS (FS)

FS O-F-241(Rev D) Fertilizers, Mixed,
Commercial

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

Erosion Control Material

Manufacturer's literature including physical characteristics, application and installation instructions for erosion control material.

Delivery; G, RE

Delivery schedule.

Plant Establishment Period; G, RE

Calendar time period for the plant establishment period. When there is more than one establishment period, the boundaries of the planted areas covered for each period shall be described.

Maintenance Record

Maintenance work performed, quantity of plant losses, and replacements; and diagnosis of unhealthy plant material.

Application of Pesticide; G, RE

Pesticide treatment plan with sequence of treatment work with dates and times. The pesticide trade name, EPA registration number, chemical composition, formulation, concentration of original and diluted material, application rate of active ingredients, method of application, area treated, amount applied; and the name and state license number of the state certified applicator shall be included.

SD-06 Test Reports

Soil Test; G, RE

Certified reports of inspections and laboratory tests, prepared by an independent testing agency, including analysis and interpretation of test results. Each report shall be properly identified. Test methods used and compliance with recognized test standards shall be described.

SD-07 Certificates

Plant Material
Topsoil; G, RE
pH Adjuster
Fertilizer
Organic Material
Soil Conditioner
Mycorrhizal Fungi Inoculum
Pesticide

Prior to delivery of materials, certificates of compliance attesting that materials meet the specified requirements. Certified copies of the material certificates shall include the following.

- a. Plant Material: Classification, botanical name, common name, size, quantity by species, and location where grown.
- b. Topsoil: Particle size, pH, organic matter content,

textural class, soluble salts, chemical, mechanical and plant growth analyses.

- c. pH Adjuster: Sieve analysis and calcium carbonate equivalent.
- d. Fertilizer: Chemical analysis and composition percent.
- e. Organic Material: Composition and source.
- f. Soil Conditioner: Composition and source.
- g. Mycorrhizal Fungi Inoculum: Plant material treated.
- h. Pesticide. EPA registration number and registered uses.

SD-10 Operation and Maintenance Data

Maintenance Instructions

Instruction for year-round care of installed plant material.

1.3 SOURCE INSPECTIONS

The nursery or source of plant material and the source of delivered topsoil shall be subject to inspection.

1.4 DELIVERY, INSPECTION, STORAGE, AND HANDLING

1.4.1 Delivery

A delivery schedule shall be provided at least 10 calendar days prior to the first day of delivery.

1.4.1.1 Plant Material Identification

Plant material shall be identified with attached, durable, waterproof labels and weather-resistant ink, stating the correct botanical plant name and size.

1.4.1.2 Protection During Delivery

Plant material shall be protected during delivery to prevent desiccation and damage to the branches, trunk, root system, or earth ball. Branches shall be protected by tying-in. Exposed branches shall be covered during transport.

1.4.1.3 Delivered Topsoil

Prior to the delivery of any topsoil, the availability of topsoil shall be verified in paragraph TOPSOIL. A soil test shall be provided for delivered topsoil.

1.4.1.4 Soil Amendments

Soil amendments shall be delivered to the site in the original, unopened containers bearing the manufacturer's chemical analysis. In lieu of containers, soil amendments may be furnished in bulk. A chemical analysis shall be provided for bulk deliveries.

1.4.1.5 Pesticide Material

Pesticide material shall be delivered to the site in the original, unopened containers bearing legible labels indicating the Environmental Protection Agency (EPA) registration number and the manufacturer's registered uses.

1.4.2 Inspection

Plant material shall be well shaped, vigorous and healthy with a healthy, well branched root system, free from disease, harmful insects and insect eggs, sun-scald injury, disfigurement or abrasion. Plant material shall be checked for unauthorized substitution and to establish nursery grown status. Plant material showing desiccation, abrasion, sun-scald injury, disfigurement, or unauthorized substitution shall be rejected. The plant material shall exhibit typical form of branch to height ratio; and meet the caliper and height measurements specified. Plant material that measures less than specified, or has been poled, topped off or headed back, shall be rejected. Container-grown plant material shall show new fibrous roots and the root mass shall contain its shape when removed from the container. Plant material with broken or cracked balls; or broken containers shall be rejected. Other materials shall be inspected for compliance with paragraph PRODUCTS. Open soil amendment containers or wet soil amendments shall be rejected. Topsoil that contains slag, cinders, stones, lumps of soil, sticks, roots, trash or other material larger than 2 inch diameter shall be rejected. Topsoil that contains viable plant material and plant parts shall be rejected. Unacceptable material shall be removed from the job site.

1.4.3 Storage

1.4.3.1 Plant Material Storage

Plant material not installed on the day of arrival at the site shall be stored and protected in designated areas. Plant material shall not be stored longer than 30 days. Plant material shall be protected from direct exposure to wind and sun. All plant material shall be kept in a moist condition by watering with a fine mist spray until installed.

1.4.3.2 Other Material Storage

Storage of other material shall be in designated areas. Soil amendments shall be stored in dry locations and away from contaminants. Chemical treatment material shall be stored according to manufacturer's instructions and not with planting operation material.

1.4.4 Handling

Plant material shall not be injured in handling. Cracking or breaking the

earth ball of balled and burlapped plant material shall be avoided. Plant material shall not be handled by the trunk or stems. Materials shall not be dropped from vehicles.

1.5 WARRANTY

Furnished plant material shall have a warranty for plant growth to be in a vigorous growing condition for a minimum 12 month period. A minimum 12 month calendar time period for the warranty of plant growth shall be provided regardless of the contract time period. When plant material is determined to be unhealthy in accordance with paragraph PLANT ESTABLISHMENT PERIOD, it shall be replaced once under this warranty.

PART 2 PRODUCTS

2.1 PLANT MATERIAL

2.1.1 Plant Material Classification

The plant material shall be nursery grown stock conforming to ANLA Z60.1 and shall be the species specified.

2.1.2 Plant Schedule

The plant schedule shall provide botanical names as included in one or more of the publications listed under "Nomenclature" in ANLA Z60.1.

2.1.3 Substitutions

Substitutions will not be permitted without written request and approval from the Contracting Officer.

2.1.4 Quality

Well shaped, well grown, vigorous plant material having healthy and well branched root systems in accordance with ANLA Z60.1 shall be provided. Plant material shall be provided free from disease, harmful insects and insect eggs, sun-scald injury, disfigurement and abrasion. Plant material shall be free of shock or damage to branches, trunk, or root systems, which may occur from the digging and preparation for shipment, method of shipment, or shipment. Plant quality is determined by the growing conditions; method of shipment to maintain health of the root system; and growth of the trunk and crown as follows.

2.1.5 Growing Conditions

Plant material shall be native to or well-suited to the growing conditions of the project site. Plant material shall be grown under climatic conditions similar to those at the project site.

2.1.6 Method of Shipment to Maintain Health of Root System

2.1.6.1 Container-Grown Plant Material

Container size shall be in accordance with ANLA Z60.1. Plant material shall be grown in a container over a duration of time for new fibrous roots to have developed and for the root mass to retain its shape and hold together when removed from the container. Container-grown plant material shall be inoculated with mycorrhizal fungi during germination in the nursery. Before shipment the root system shall be dipped in gels containing mycorrhizal fungi inoculum. The container shall be sufficiently rigid to hold ball shape and protect root mass during shipping.

2.1.7 Growth of Trunk and Crown

2.1.7.1 Deciduous Trees

A height to caliper relationship shall be provided in accordance with ANLA Z60.1. Height of branching shall bear a relationship to the size and species of tree specified and with the crown in good balance with the trunk. The trees shall not be "poled" or the leader removed.

- a. Single stem: The trunk shall be reasonably straight and symmetrical with crown and have a persistent main leader.
- b. Multi-stem: All countable stems, in aggregate, shall average the size specified. To be considered a stem, there shall be no division of the trunk which branches more than 6 inches from ground level.

2.1.7.2 Shrubs

Shrubs shall have the height and number of primary stems recommended by ANLA Z60.1. Acceptable plant material shall be well shaped, with sufficient well-spaced side branches, and recognized by the trade as typical for the species grown in the region of the project.

2.1.7.3 Coniferous Evergreen Plant Material

Coniferous Evergreen plant material shall have the height-to-spread ratio recommended by ANLA Z60.1. The coniferous evergreen trees shall not be "poled" or the leader removed. Acceptable plant material shall be exceptionally heavy, well shaped and trimmed to form a symmetrical and tightly knit plant. The form of growth desired shall be as indicated.

2.1.7.4 Broadleaf Evergreen Plant Material

Broadleaf evergreen plant material shall have the height-to-spread ratio recommended by ANLA Z60.1. Acceptable plant material shall be well shaped and recognized by the trade as typical for the variety grown in the region of the project.

2.1.7.5 Ground Cover and Vine Plant Material

Ground cover and vine plant material shall have the minimum number of runners and length of runner recommended by ANLA Z60.1. Plant material shall have heavy, well developed and balanced crown with vigorous, well developed root system and shall be furnished in containers.

2.1.8 Plant Material Size

Plant material shall be furnished in sizes indicated. Plant material larger in size than specified may be provided at no additional cost to the Government.

2.1.9 Plant Material Measurement

Plant material measurements shall be in accordance with ANLA Z60.1.

2.2 TOPSOIL

Topsoil shall be as defined in ASTM D 5268. When available, the topsoil shall be the existing surface soil stripped and stockpiled onsite. When additional topsoil is required beyond the available topsoil from the stripping operation, topsoil shall be delivered and amended as recommended by the soil test for the plant material specified. Topsoil shall be free from slag, cinders, stones, lumps of soil, sticks, roots, trash or other material over a minimum 1-1/2 inch diameter. Topsoil shall be free from viable plants and plant parts.

2.3 SOIL AMENDMENTS

Soil amendments shall consist of pH adjuster, fertilizer, organic material and soil conditioner meeting the following requirements.

2.3.1 pH Adjuster

Agricultural gypsum shall be commercially packaged, free flowing, of a finely ground form and an agricultural grade, minimum ninety-two percent (92%) calcium sulfate by volume, free of any toxic material. One hundred percent (100%) of the ground material shall pass through a ten (10) mesh screen and at least fifty percent (50%) of the material shall pass through a 100-mesh screen.

2.3.1.1 Agricultural Sulfur

Agricultural sulfur shall be first quality commercial grade, commercially packaged, free flowing, of a flour of sulfur finely ground form

2.3.2 Fertilizer

Fertilizer shall be commercial grade, free flowing, uniform in composition and conforming to FS O-F-241 and CID A-A-1909.

Fertilizer 1:

Nitrogen	5%
Phosphoric Acid	3%
Water Soluble Potash	1%
Humus (composted organic and mineral matter)	50%
Humic Acids (derived from compost)	15%
Soluble Metallic Iron	1%

Fertilizer 2 based in a four (4) to six (6) month release form:

Coated Slow Release Nitrogen*	9%
Urea Nitrogen	2%
Available Phosphoric Acid**	8%
Soluble Potash***	8%
Humus (composted organic and mineral matter	25%
Humic Acid (derived from compost)	5%
Iron (derived from iron sulfate)	2%
Manganese (derived from manganese sulfate)	.05%
Zinc (derived from zinc sulfate)	.05%
Sulfur	7%

* derived from sulfur coated urea (controlled release)

** derived from triple super phosphate

*** derived from compost and muriate of potash

2.4 Erosion Control Material

Soil erosion control material shall be heavy, twisted jute mesh weighing approximately 1.22 pounds per linear yard and four feet (4') wide with mesh openings of approximately one inch (1") square. Deviation from this requirement shall be approved by the Contracting Officer.

Erosion control anchor material shall be as recommended by the manufacturer.

2.5 WOOD STAKING MATERIAL

Wood stakes shall be hardwood or fir; rough sawn; free from knots, rot, cross grain, or other defects that would impair their strength or as indicated on the project drawings.

2.6 MYCORRHIZAL FUNGI INOCULUM

Mycorrhizal fungi inoculum shall be composed of multiple-fungus inoculum as recommended by the manufacturer for the plant material specified.

2.7 WATER

Water shall be the responsibility of the Contractor. The contractor shall pay all water service charges throughout the contract period. Water shall not contain elements toxic to plant life.

2.8 DECOMPOSED WOOD DERIVATIVES

Decomposed wood derivatives shall be ground bark, sawdust, or other wood waste material free of stones, sticks, and toxic substances harmful to plants and stabilized with nitrogen and having the following properties:

Particle Size	Minimum % by Weight Passing
No. 4 mesh screen	95
No. 8 mesh screen	80
Nitrogen Content	Minimum % Based on Dry Weight
Redwood Sawdust	0.5

Fir Sawdust	0.7
Fir or Pine Bark	1.0

2.9 PESTICIDE

Pesticide shall be insecticide, herbicide, fungicide, nematocide, rodenticide or miticide. For the purpose of this specification a soil fumigant shall have the same requirements as a pesticide. The pesticide material shall be EPA registered and approved.

PART 3 EXECUTION

3.1 INSTALLING PLANT MATERIAL TIME AND CONDITIONS

3.1.1 Deciduous Plant Material Time

When approved by the Contracting Officer plant material shall be installed from November 1st to April 15th.

3.1.2 Plant Material Conditions

Planting operations shall be performed only during periods when beneficial results can be obtained. When drought, excessive moisture, frozen ground or other unsatisfactory conditions prevail, the work shall be stopped when directed. When special conditions warrant a variance to the planting operations, proposed planting times shall be submitted for approval.

3.1.3 Tests

3.1.3.1 Percolation Test

Test for percolation shall be done to determine positive drainage of plant pits. The Contracting Officer shall be notified in writing of all soil and drainage conditions detrimental to growth of plant material and shall submit proposal for correcting the condition.

3.1.3.2 Soil Test

Delivered topsoil shall be tested in accordance with ASTM D 5268 and ASTM D 4972 for determining the particle size, pH, organic matter content, textural class, chemical analysis, soluble salts analysis, mechanical and growth analysis. Sample collection onsite shall be random over the entire site. Sample collection for stockpiled topsoil shall be at different levels in the stockpile. The soil shall be free from debris, noxious weeds, toxic substances, or other materials harmful to plant growth.

3.2 SITE PREPARATION

3.2.1 Finished Grade, Topsoil and Underground Utilities

The Contractor shall verify that finished grades are as indicated on drawings, and that the placing of topsoil, the smooth grading, and the compaction requirements have been completed in accordance with Section

02921a HYDROSEEDING and Section 02316A EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS AND GRADING, prior to the commencement of the planting operation. The location of underground utilities and facilities in the area of the planting operation shall be verified. Damage to underground utilities and facilities shall be repaired at the Contractor's expense.

3.2.2 Layout

Plant material locations and bed outlines shall be staked on the project site before any excavation is made. Plant material locations may be adjusted to meet field conditions.

3.2.3 Protecting Existing Vegetation

Existing trees, shrubs, and plant beds that are to be preserved shall be protected during planting operations.

3.3 EXCAVATION

3.3.1 Obstructions Below Ground

When obstructions below ground affect the work, proposed adjustments to plant material location, type of plant and planting method shall be submitted for approval.

3.3.2 Turf Removal

Where the planting operation occurs in an existing lawn area, the turf shall be removed from the excavation area to a depth that will ensure the removal of the entire root system.

3.3.3 Plant Pits

Plant pits shall be dug to produce vertical sides and flat, uncompacted bottoms. When pits are dug with an auger and the sides of the pits become glazed, the glazed surface shall be scarified. The size of plant pits shall be as shown on the contract drawings.

3.4 INSTALLATION

3.4.1 Setting Plant Material

Plant material shall be set plumb and held in position until sufficient soil has been firmly placed around root system or ball. In relation to the surrounding grade, the plant material shall be set even with the grade at which it was grown.

3.4.2 Backfill Soil Mixture

The backfill soil shall be 100% native site soil that has been cleared of all debris and rock and broken up and made friable.

The following additives shall be mass blended thoroughly into the backfill

soil mixture at the time of planting at the following rates per cubic yard of soil and all plants shall be thoroughly watered immediately upon completion of installation:

10 pounds	Fertilizer 1
2 pounds	Fertilizer 2
1/2 pound	Agricultural Sulfur
3 pound	Agricultural Gypsum

3.4.3 Adding Mycorrhizal Fungi Inoculum

Mycorrhizal fungi inoculum shall be added as recommended by the manufacturer for the plant material specified.

3.4.4 Backfill Procedure

Prior to backfilling, all metal, wood, and synthetic products shall be removed avoiding damage to the root system. The backfill procedure shall remove air pockets from around the root system. Additional requirements are as follows.

3.4.4.1 Container-Grown Plant Material

The plant material shall be carefully removed from containers. Prior to setting the plant in the pit, a maximum 1/4 depth of the root mass, measured from the bottom, shall be spread apart to promote new root growth.

3.4.4.2 Earth Berm

An earth berm shall be formed as shown on the project drawings with a minimum 4 inch height around the edge of the plant pit to aid in water retention and to provide soil for settling adjustments.

3.4.5 Plant Bed

Plant material shall be set in plant beds according to the drawings. Backfill soil mixture shall be placed on previously scarified subsoil to completely surround the root balls, and shall be brought to a smooth and even surface, blending to existing areas. Earth berms shall be provided as shown on the project drawings.

3.4.6 Watering

Plant pits and plant beds shall be watered immediately after backfilling, until completely saturated.

3.5 FINISHING

3.5.1 Plant Material

Prior to placing mulch, the installed area shall be raked and smoothed while maintaining the earth berms.

3.5.2 Placing Erosion Control Material

Jute mesh shall be placed as indicated in accordance with the manufacturer's recommendations. Jute mesh shall be installed in all planted shrub bed areas (non-hydroseeded areas). Placement of the erosion control material shall be accomplished without damage to installed material or without deviation to finished grade.

3.5.3 Placing Mulch

The placement of mulch shall occur a maximum 48 hours after planting. Contractor shall cover the rootball and backfill plant pit area with a two inch (2") layer of decomposed wood derivative. Mulch shall be kept out of the crowns of shrubs, ground cover, and vines and shall be kept off buildings, sidewalks and other facilities.

3.5.4 Pruning

Pruning shall be accomplished by trained and experienced personnel (min. 5 years of documented experience in the field). The pruning of trees shall be in accordance with standard landscape practice. Only dead or broken material shall be pruned from existing and installed plants or as directed by the Contracting Officer. The typical growth habit of individual plant material shall be retained. Clean cuts shall be made flush with the parent trunk. Improper cuts, stubs, dead and broken branches shall be removed. "Headback" cuts at right angles to the line of growth will not be permitted. Trees shall not be poled or the leader removed, nor shall the leader be pruned or "topped off".

3.6 MAINTENANCE DURING PLANTING OPERATION

Installed plant material shall be maintained in a healthy growing condition. Maintenance operations shall begin immediately after each plant is installed to prevent desiccation and shall continue until the plant establishment period commences. Installed areas shall be kept free of trash, weeds, grass, and other undesired vegetation. The maintenance includes maintaining the erosion control material, mulch, watering, and adjusting settling.

3.7 APPLICATION OF PESTICIDE

When application of a pesticide becomes necessary to remove a pest or disease, a pesticide treatment plan shall be submitted and coordinated with the installation pest management program.

3.7.1 Technical Representative

The certified installation pest management coordinator shall be the technical representative, and shall be present at all meetings concerning treatment measures for pest or disease control. They may be present during treatment application.

3.7.2 Application

A state certified applicator shall apply required pesticides in accordance with EPA label restrictions and recommendations.

3.8 RESTORATION AND CLEAN UP

3.8.1 Restoration

Seeded areas, pavements and facilities that have been damaged from the planting operation shall be restored to original condition at the Contractor's expense.

3.8.2 Clean Up

Excess and waste material shall be removed from the installed area and shall be disposed offsite. Adjacent paved areas shall be cleared.

3.9 PLANT ESTABLISHMENT PERIOD

Written calendar time period shall be furnished to the Contracting Officer for the beginning of the Plant Establishment Period.

3.9.1 Commencement

The Post-Installation Plant Establishment Period shall commence on the last day of planting operations and shall be in effect for twelve (12) months or at the end of the Hydroseed Establishment Period under Section 02921a HYDROSEEDING which ever is longer. When the planting operation extends over more than one season or there is a variance to the planting times, plant establishment periods shall be established for the work completed.

3.9.2 Maintenance During Establishment Period

Maintenance of plant material shall include straightening plant material, straightening stakes; supplementing mulch; pruning dead or broken branch tips; maintaining plant material labels; watering; eradicating weeds, insects and disease; post-fertilization; maintaining the erosion control material; removing and replacing unhealthy plants.

3.9.2.1 Watering Plant Material

The plants shall be watered as necessary to maintain an adequate supply of moisture within the root zone. Contractor shall irrigate in accordance with regular replacement of soil moisture according to ET readings from the Irvine Station of the California Irrigation Management Information System (CIMIS). Initially, up to one and one-half times allotment can be used until irrigation drops to eighty percent (80%) of CIMIS allotment at one (1) year. Run-off, puddling and wilting shall be prevented.

3.9.2.2 Weeding

Weeds in the installed areas shall not be allowed to reach a maximum 3 inches height before being completely removed, including the root system. The contractor shall ensure that there is enough labor force, which can weed the entire area within a five day period.

3.9.2.3 Pesticide Treatment

Treatment for disease or pest shall be in accordance with paragraph APPLICATION OF PESTICIDE.

3.9.2.4 Post-Fertilization

- a. Dry fertilizer adhering to plants shall be flushed off. The application shall be timed prior to the advent of winter dormancy. The contractor shall notify the Contracting Officer prior to fertilization operations.
- b. Forty-five (45) calendar days after commencement of establishment, Fertilizer 1 shall be general broadcast in plant pit basin areas at the rate of twenty-five (25) pounds per 1,000 square feet and thoroughly irrigated into plant pits immediately after application.
- c. Fertilizer 2, in the four (4) to six (6) month release formulation shall be broadcast in plant pit basin areas at the rate of fifteen (15) pounds per 1,000 square feet between day 100 and day 110 and thoroughly irrigated into plant pits immediately after application. This application is in addition to the forty-five (45) day application.
- d. Native plantings (as verified by the Contracting Officer) shall not be fertilized again at any time after installation.

3.9.2.5 Plant Pit Settling

When settling occurs to the backfill soil mixture, additional backfill soil shall be added to the plant pit or plant bed until the backfill level is equal to the surrounding grade. Serious settling that affects the setting of the plant in relation to the maximum depth at which it was grown requires replanting in accordance with paragraph INSTALLATION. The earth berm shall be maintained.

3.9.2.6 Maintenance Record

A record shall be furnished describing the maintenance work performed including but not limited to weeding and watering schedules, irrigation maintenance performed, the quantity of plant losses, diagnosis of the plant loss, and the quantity of replacements made on each site visit. The contractor shall provide dates, times, and weather conditions, if applicable.

3.9.3 Unhealthy Plant Material

A tree shall be considered unhealthy or dead when the main leader has died back, or up to a maximum 25 percent of the crown has died. A shrub shall be considered unhealthy or dead when up to a maximum 25 percent of the plant has died. This condition shall be determined by scraping on a branch an area 1/16 inch square, maximum, to determine if there is a green cambium layer below the bark. The Contractor shall determine the cause for unhealthy plant material and shall provide recommendations for replacement.

Unhealthy or dead plant material shall be removed immediately and shall be replaced as soon as seasonal conditions permit.

3.9.4 Replacement Plant Material

Unless otherwise directed, plant material shall be provided for replacement in accordance with paragraph PLANT MATERIAL. Replacement plant material shall be installed in accordance with paragraph INSTALLATION, and recommendations in paragraph PLANT ESTABLISHMENT PERIOD. Plant material shall be replaced in accordance with paragraph WARRANTY. An extended plant establishment period shall not be required for replacement plant material.

3.9.5 Maintenance Instructions

Written instructions shall be furnished containing drawings and other necessary information for year-round care of the installed plant material; including, when and where maintenance should occur, and the procedures for plant material replacement.

3.9.6 Saline Conditions

During the Establishment Period, the Contractor shall inform the Contracting Officer of plant material which may be experiencing stress due to saline conditions.

3.10 FINAL ACCEPTANCE

3.10.1 Preliminary Inspection

Prior to the end of the plant establishment period, a preliminary inspection shall be held by the Contracting Officer. Time for the inspection will be established in writing. The quantity and type of plants installed and the acceptability of the plants in accordance with the plant establishment period shall be determined.

3.10.2 Final Inspection

A final inspection shall be held by the Contracting Officer at the end of the plant establishment period to determine that deficiencies noted in the preliminary inspection have been corrected. Time for the inspection shall be established in writing. Acceptance of the planting operation is subject to the guarantee of plant growth.

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SECTION 10430A

EXTERIOR SIGNAGE AND STEEL POSTS

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 A 36/A 36M	(2000) Carbon Structural Steel
ASTM A 123/A 123M	(2000) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 570/A 570M	(1998) Steel, Sheet and Strip, Carbon, Hot-Rolled, Structural Quality
ASTM A 653/A 653M	(2000) Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM B 209	(1996) Aluminum and Aluminum-Alloy Sheet and Plate

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1	(2000) Structural Welding Code - Steel
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CODE OF FEDERAL REGULATIONS (CFR)

36 CFR 1191	Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities
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1.2 GENERAL

Exterior signage shall be of the size and type shown on the drawings, shall conform to the requirements of 36 CFR 1191, color charts and as specified herein. Exterior signage shall be placed at the locations indicated. Signs shall be complete with lettering, framing as detailed, and related components for a complete installation. Materials and equipment shall be the standard product of a manufacturer regularly engaged in the manufacture of the products. Items of

equipment shall essentially duplicate equipment that has been in satisfactory use at least two (2) years prior to bid opening.

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-03 Product Data

Installation

Manufacturer's installation instructions and cleaning instructions.

SD-04 Samples

Exterior Signs

One sample of each type of sign. Each sample shall consist of a complete sign panel with letters and symbols. Samples may be installed in the work, provided each sample is identified and location recorded. Samples of manufacturer's standard color chips for each material requiring color selection. 1/2 inch

1.4 QUALIFICATIONS

Signs, plaques, and dimensional letters shall be the standard product of a manufacturer regularly engaged in the manufacture of the products. Items of equipment shall essentially duplicate equipment that has been in satisfactory use at least 2 years prior to bid opening.

1.5 DELIVERY AND STORAGE

Materials shall be wrapped for shipment and storage, delivered to the jobsite in manufacturer's original packaging, and stored in a clean, dry area in accordance with manufacturer's instructions.

1.6 WARRANTY

Manufacturer's standard performance guarantees or warranties that extend beyond a one year period shall be provided.

PART 2 PRODUCTS

2.1 Panel And Post/Panel Type Signs

2.1.1 Posts

One-piece galvanized steel posts shall be provided with minimum 0.125 inch 0.125 inch wall thickness. Posts shall be designed to accept panel framing

system described. The post shall be designed to permit attachment of panel framing system without exposed fasteners. Caps shall be provided for each post.

2.1.2 Panels

Modular message panels shall be provided in sizes shown on drawings. Panels shall be fabricated a minimum of 0.084 inch aluminum.

2.1.3 Mounting

Permanent mounting shall be provided by embedding posts in concrete as shown on the contract drawings.

2.2 GRAPHICS FOR EXTERIOR SIGNAGE SYSTEMS

2.2.1 Graphics

Signage graphics shall conform to the following:

Signage graphics shall be applied to panel using the silkscreen process. Silkscreened images shall be executed with photo screens prepared from original art. No hand cut screens will be accepted. Original art shall be defined as artwork that is a first generation stencil of the original specified art. Edges and corners shall be clean. Rounded corners, cut or ragged edges, edge buildup, bleeding or surface pinholes will not be accepted.

2.2.2 Messages

See contract drawings for message content. Typeface: Helvetica medium. Type size as indicated.

2.3 ALUMINUM ALLOY PRODUCTS

Aluminum alloy products shall conform to ASTM B 209 for sheet or plate.

2.4 STEEL PRODUCTS

Structural steel products shall conform to ASTM A 36/A 36M. Sheet and strip steel products shall conform to ASTM A 570/A 570M. Welding for steel products shall conform to AWS D1.1.

2.5 ANCHORS AND FASTENERS

Exposed anchor and fastener materials shall be compatible with metal to which applied and shall match in color and finish and shall be non-rusting, non-corroding, and non-staining. Exposed fasteners shall be tamper-proof.

2.6 SHOP FABRICATION AND MANUFACTURE

2.6.1 Factory Workmanship

Work shall be assembled in the shop, as far as practical, ready for

installation at the site. Work that cannot be shop assembled shall be given a trial fit in the shop to ensure proper field assembly. Holes for bolts and screws shall be drilled or punched. Drilling and punching shall produce clean, true lines and surfaces. Welding to or on structural steel shall be in accordance with AWS D1.1. Welding shall be continuous along the entire area of contact. Exposed welds shall be ground smooth. Exposed surfaces of work shall have a smooth finish and exposed riveting shall be flush. Fastenings shall be concealed where practical. Items specified to be galvanized shall be by hot-dip process after fabrication if practical. Galvanization shall be in accordance with ASTM A 123/A 123M and ASTM A 653/A 653M, as applicable. Joints exposed to the weather shall be formed to exclude water. Drainage and weep holes shall be included as required to prevent condensation buildup.

2.6.2 Dissimilar Materials

Where dissimilar metals are in contact, or where aluminum is in contact with concrete, or absorptive materials subject to wetting, the surfaces shall be protected with a coat of asphalt varnish or a coat of zinc-molybdate primer to prevent galvanic or corrosive action.

2.6.3 Shop Painting

Surfaces of miscellaneous metal work shall be given one (1) coat of zinc-molybdate primer or an approved rust-resisting treatment and metallic primer in accordance with manufacturer's standard practice. Color shall be as shown on the contract drawings or as approved by the Contracting Officer. Surfaces of items to be embedded in concrete shall not be painted. Upon completion of work, damaged surfaces shall be recoated.

2.7 VALVE MARKER POSTS

The contractor shall install 2 inch diameter galvanized steel schedule 40 pipe for each remote control valve or remote control valve grouping and one per gate valve. Posts shall be as shown on the contract drawings. Caps shall be provided for each post.

2.8 COLOR

Color shall match previous project reach and shall be approved by the Contracting Officer. Purple used for reclaimed water signs shall be a match to Pantone 512C.

PART 3 EXECUTION

3.1 INSTALLATION

- a. Exterior Signs shall be installed in accordance with approved manufacturer's instructions. Signs and valve markers shall be placed at locations shown on the contract drawings or as directed by the Contracting Officer. Signs and valve markers shall be installed plumb and true at mounting heights indicated, and by method shown or specified. Signs mounted on other surfaces shall not be installed

until finishes on such surfaces have been completed.

- b. Concrete footings shall be sloped to drain away from post(s).

3.1.1 Anchorage

Anchorage shall be in accordance with approved manufacturer's instructions.

3.1.2 Protection and Cleaning

The work shall be protected against damage during construction. Hardware shall be adjusted for proper operation. Sign surfaces shall be cleaned in accordance with manufacturer's instructions.

3.2 FINISH

Miscellaneous metals, frames and posts finish shall be free of scratches or other blemishes.

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SECTION 16375A

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SECTION 16375A

ELECTRICAL DISTRIBUTION SYSTEM, UNDERGROUND

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 NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI C119.1 (1986; R 1997) Sealed Insulated
Underground Connector Systems Rated 600
Volts

ANSI C80.1 (1995) Rigid Steel Conduit - Zinc Coated

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 123/A 123M (2001) Zinc (Hot-Dip Galvanized) Coatings on
Iron and Steel Products

ASTM A 153/A 153M (2001) Zinc Coating (Hot-Dip) on Iron and
Steel Hardware

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C2 (1997) National Electrical Safety Code

IEEE Std 100 (1997) IEEE Standard Dictionary of
Electrical and Electronics Terms

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA FB 1 (1993) Fittings, Cast Metal Boxes, and
Conduit Bodies for Conduit and Cable
Assemblies

NEMA TC 6 (1990) PVC and ABS Plastic Utilities Duct
for Underground Installation

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (2002) National Electrical Code

UNDERWRITERS LABORATORIES (UL)

UL 1242	(1996; Rev Mar 1998) Intermediate Metal Conduit
UL 1684	(2000) Reinforced Thermosetting Resin Conduit (RTRC) and Fittings
UL 486A	(1997; Rev thru Dec 1998) Wire Connectors and Soldering Lugs for Use with Copper Conductors
UL 514A	(1996; Rev Dec 1999) Metallic Outlet Boxes
UL 6	(1997) Rigid Metal Conduit
UL 651	(1995; Rev thru Oct 1998) Schedule 40 and 80 Rigid PVC Conduit

1.2 GENERAL REQUIREMENTS

1.2.1 Terminology

Terminology used in this specification is as defined in IEEE Std 100.

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

As-Built Drawings; G, RE

The as-built drawings shall be a record of the construction as specified in Section 01201 General Requirements under paragraph As-Built Drawings.

SD-03 Product Data

Nameplates

Catalog cuts, brochures, circulars, specifications, product data, and printed information in sufficient detail and scope to verify compliance with the requirements of the contract documents.

Material and Equipment

A complete itemized listing of equipment and materials proposed for incorporation into the work. Each entry shall include an item number, the quantity of items proposed, and the name of the manufacturer of each such item.

SD-06 Test Reports

Field Testing; G, RE

A proposed field test plan, 30 days prior to testing the installed system. No field test shall be performed until the test plan is approved. The test plan shall consist of complete field test procedures including tests to be performed, test equipment required, and tolerance limits.

SD-07 Certificates

Material and Equipment

Where materials or equipment are specified to conform to the standards of the Underwriters Laboratories (UL) or to be constructed or tested, or both, in accordance with the standards of the American National Standards Institute (ANSI), the Institute of Electrical and Electronics Engineers (IEEE), or the National Electrical Manufacturers Association (NEMA), the Contractor shall submit proof that the items provided conform to such requirements.

The label of, or listing by, UL will be acceptable as evidence that the items conform. Either a certification or a published catalog specification data statement, to the effect that the item is in accordance with the referenced ANSI or IEEE standard, will be acceptable as evidence that the item conforms. A similar certification or published catalog specification data statement to the effect that the item is in accordance with the referenced NEMA standard, by a company listed as a member company of NEMA, will be acceptable as evidence that the item conforms. In lieu of such certification or published data, the Contractor may submit a certificate from a recognized testing agency equipped and competent to perform such services, stating that the items have been tested and that they conform to the requirements listed, including methods of testing of the specified agencies. Compliance with above-named requirements does not relieve the Contractor from compliance with any other requirements of the specifications.

1.4 DELIVERY, STORAGE, AND HANDLING

Devices and equipment shall be visually inspected by the Contractor when received and prior to acceptance from conveyance. Stored items shall be protected from the environment in accordance with the manufacturer's published instructions. Damaged items shall be replaced.

PART 2 PRODUCTS

2.1 STANDARD PRODUCT

Material and equipment shall be the standard product of a manufacturer regularly engaged in the manufacture of the product and shall essentially duplicate items that have been in satisfactory use for at least (two)2

years prior to bid opening. Items of the same classification shall be identical including equipment, assemblies, parts, and components.

2.2 NAMEPLATES

2.2.1 General

Each major component of this specification shall have the manufacturer's name, address, type or style, model or serial number, and catalog number on a nameplate securely attached to the equipment. Nameplates shall be made of noncorrosive metal. As a minimum, nameplates shall be provided for transformers, circuit breakers, meters, switches, and switchgear.

2.3 CORROSION PROTECTION

2.3.1 Ferrous Metal Materials

2.3.2 Hardware

Ferrous metal hardware shall be hot-dip galvanized in accordance with ASTM A 153/A 153M and ASTM A 123/A 123M.

2.3.3 Finishing

Painting required for surfaces not otherwise specified and finish painting of items only primed at the factory shall be as specified on contract drawings.

2.4 CABLES

Cables shall be single conductor type unless otherwise indicated on contract drawings.

2.4.1 Conductor Material

Underground cables shall be soft drawn copper conductor material.

2.4.2 Low-Voltage Cables

Cables shall be rated 600 volts and shall conform to the requirements of NFPA 70. Cable shall utilize Type THWN Insulation.

2.4.2.1 In Duct

Cables shall be single-conductor cable, Type RHW, THW, THWN, TW, USE, or XHHW in accordance with NFPA 70.

2.5 CABLE JOINTS, TERMINATIONS, AND CONNECTORS

2.5.1 Low-Voltage Cable Splices

Low-voltage cable splices and terminations shall be rated at not less than 600 Volts. Splices in conductors No. 10 AWG and smaller shall be made with an insulated, solderless, pressure type connector, conforming to the

applicable requirements of UL 486A. Splices in conductors No. 8 AWG and larger shall be made with noninsulated, solderless, pressure type connector, conforming to the applicable requirements of UL 486A. Splices shall then be covered with an insulation and jacket material equivalent to the conductor insulation and jacket. Splices below grade or in wet locations shall be sealed type conforming to ANSI C119.1 or shall be waterproofed by a sealant-filled, thick wall, heat shrinkable, thermosetting tubing or by pouring a thermosetting resin into a mold that surrounds the joined conductors.

2.6 CONDUIT AND DUCTS

Ducts shall be single, round-bore type, fittings suitable for the application. Duct lines shall be nonencased direct-burial, thick-wall type or concrete-encased, thin-wall type.

2.6.1 Metallic Conduit

Intermediate metal conduit shall comply with UL 1242. Rigid galvanized steel conduit shall comply with UL 6 and ANSI C80.1. Metallic conduit fittings and outlets shall comply with UL 514A and NEMA FB 1.

2.6.2 Nonmetallic Ducts

2.6.2.1 Bituminized Fiber Duct

UL 1684 for Type II (Thickwall).

2.6.2.2 Concrete Encased Ducts

UL 651 Schedule 40 or NEMA TC 6 Type EB.

2.6.2.3 Direct Burial

UL 651 Schedule 80, or NEMA TC 6 Type DB.

2.6.3 Conduit Sealing Compound

Compounds for sealing ducts and conduit shall have a putty-like consistency workable with the hands at temperatures as low as 35 degrees F, 35 degrees F, shall neither slump at a temperature of 300 degrees F, 300 degrees F, nor harden materially when exposed to the air. Compounds shall adhere to clean surfaces of fiber or plastic ducts; metallic conduits or conduit coatings; concrete, masonry, or lead; any cable sheaths, jackets, covers, or insulation materials; and the common metals. Compounds shall form a seal without dissolving, noticeably changing characteristics, or removing any of the ingredients. Compounds shall have no injurious effect upon the hands of workmen or upon materials.

2.7 NAMEPLATES

Nameplates shall be miocardia or lamacoid plate, 1/8" thick and of approved size, with bevelled edges and engraved white letters on black background. Provide nameplates for all items of electrical equipment as well as

circuits in the service distribution and power distribution panelboards; lighting distribution panelboards; separately mounted motor starting switches; disconnect switches; motor control pushbutton stations; and other similar devices. Each nameplate shall be as approved by the Contracting Officer. Use two (2) machine screws for attachment. Cement/adhesive is not acceptable.

2.8 METERING FACILITIES

Install equipment meeting the approval of the governing utility company.

2.9 CIRCUIT BREAKERS

Provide circuit breakers with inverse time characteristic thermal and magnetic tripping elements, with an interrupting capacity of not less than 10,000 amperes, UL labeled, NEMA rated, molded case type. Use common trip single handle multi-pole breakers. Handle extensions are not permitted. All circuit breakers will have covers sealed on noninterchangeable trip breakers and trip unit covers sealed in interchangeable trip breaks to prevent tampering. Circuit breaker current rating markings shall be clearly visible after breaker is installed. One manufacturer for all circuit breakers for a given panel. Provide bolt-on circuit breakers unless specifically noted on contract drawings.

2.10 MAIN SERVICE EQUIPMENT

2.10.1 Type and Size

Type and size of the main electrical service shall be as indicated on the contract drawings.

2.10.2 Metering Equipment

Metering equipment shall be as located on the contract drawings. Contractor to provide test blocks.

2.10.3 Panelboard

The panelboard shall consist of a completely enclosed, self-supported structure. Contractor shall provide bolted frames and insulating block to support the main horizontal bus for short circuit stresses as indicated on the contract drawings. Main circuit breaker, rating per plans, and 6 circuit plug in load center with plated copper bus.

2.10.4 Enclosure

Enclosure shall be stainless steel, with stainless steel piano hinged doors, dual pad lockable. Enclosure shall match previous project reach. All fasteners shall be stainless steel.

2.10.5 Meter Pedestal

The manufacturer producing the meter pedestal shall be regularly engaged in

the construction of this type of equipment, being equal to Pacific Utility Products, Myers, Circle AW, or approved equal.

2.10.6 Grounding

The grounding electrode conductor shall be copper, solid or stranded, insulated or bare, and in one continuous length. The equipment grounding conductor shall be copper, #12 AWG minimum, and solid for #12 AWG, stranded for #10 AWG or larger. Connections of grounding electrode conductors to grounding electrodes shall be exothermic weld. Equipment grounding conductors shall terminate on lugs listed or identified green colored hexagonal terminal screw or nut, or a green pressure wire connector. Ground rods shall be 10 feet long, 3/4 inch diameter, and made of copper clad steel.

PART 3 EXECUTION

3.1 GENERAL INSTALLATION REQUIREMENTS

Equipment and devices shall be installed and energized in accordance with the manufacturer's published instructions.

3.1.1 Conformance to Codes

The installation shall comply with the requirements and recommendations of NFPA 70 and IEEE C2 as applicable.

3.1.2 Verification of Dimensions

The Contractor shall become familiar with details of the work, shall verify dimensions in the field, and shall advise the Contracting Officer of any discrepancy before performing any work.

3.2 CABLE INSTALLATION

The manufacturer's installation manual shall govern cable construction, insulation type, cable diameter, bending radius, cable temperature, lubricants, coefficient of friction, conduit cleaning, storage procedures, moisture seals, testing for and purging moisture.

3.2.1 Cable Installation Plan and Procedure

Cable shall be installed strictly in accordance with the cable manufacturer's recommendations. Each circuit shall be identified by means of a fiber, laminated plastic, or non-ferrous metal tags, or approved equal, in each manhole, handhole, junction box, and each terminal.

3.2.1.1 Cable Inspection

The cable reel shall be inspected for correct storage positions, signs of physical damage, and broken end seals. If end seal is broken, moisture shall be removed from cable in accordance with the cable manufacturer's recommendations.

3.2.1.2 Duct Cleaning

Duct shall be cleaned with an assembly that consists of a flexible mandrel (manufacturers standard product in lengths recommended for the specific size and type of duct) that is 1/4 inch less than inside diameter of duct, 2 wire brushes, and a rag. The cleaning assembly shall be pulled through conduit a minimum of 2 times or until less than a volume of 8 cubic inches of debris is expelled from the duct.

3.2.1.3 Duct Lubrication

The cable lubricant shall be compatible with the cable jacket for cable that is being installed. Application of lubricant shall be in accordance with lubricant manufacturer's recommendations.

3.2.2 Duct Line

Low-voltage cables shall be installed in duct lines where indicated. Cable splices in low-voltage cables shall be made in pullboxes only, except as otherwise noted. Neutral and grounding conductors shall be installed in the same duct with their associated phase conductors.

3.3 DUCT LINES

3.3.1 Nonencased Direct-Burial

Top of duct lines shall be not less than twenty-four inches (24") below finished grade and shall be installed with a minimum of three inches (3") of earth around each duct, except that between adjacent electric power and communication ducts, twelve inches (12") of earth is required. Bottoms of trenches shall be graded toward manholes or handholes and shall be smooth and free of stones, soft spots, and sharp objects. Where bottoms of trenches comprise materials other than sand, a three inch (3") layer of sand shall be laid first and compacted to approximate densities of surrounding firm soil before installing ducts. The first six inch (6") layer of backfill cover shall be sand compacted as previously specified. The rest of the excavation shall be backfilled and compacted in three inch (3") to six inch (6") layers.

3.3.2 Concrete Encasement

Ducts requiring concrete encasement shall comply with NFPA 70 and as shown on the contract drawings. The separation between adjacent electric power and communication ducts shall conform to IEEE C2. Duct line encasements shall be monolithic construction. Where a connection is made to a previously poured encasement, the new encasement shall be well bonded or doweled to the existing encasement. The Contractor shall submit proposed bonding method for approval in accordance with the detail drawing portion of paragraph SUBMITTALS. At any point tops of concrete encasements shall be not less than the cover requirements listed in NFPA 70. Where ducts are jacked under existing pavement, rigid steel conduit shall be installed. To protect the corrosion-resistant conduit coating, predrilling or installing conduit inside a larger iron pipe sleeve (jack-and-sleeve) is required. Separators or spacing blocks shall be made of steel, concrete, plastic, or

a combination of these materials placed not farther apart than four feet (4') on center(s). Ducts shall be anchored to prevent movement during the placement of concrete, and joints shall be staggered at least six inches (6") vertically.

3.3.3 Installation of Couplings

Joints in each type of duct shall be made up in accordance with the manufacturer's recommendations for the particular type of duct and coupling selected and as approved.

3.3.3 Plastic Duct

Duct joints shall be made by brushing a plastic solvent cement on insides of plastic coupling fittings and on outsides of duct ends. Each duct and fitting shall then be slipped together with a quick 1/4-turn twist to set the joint tightly.

3.3.4 Grounding

Provide grounding for entire electrical installation as required by the serving utility and N.E.C., including conduit raceways and outlet boxes, neutral conductor at point of service, and Non-current carrying metal parts or fixed equipment. Grounding electrode, per N.E.C. 250-83, (c), shall be installed such that at least eight feet of length is in contact with the soil, and shall be driven to a depth not less than 8 feet. Where rock bottom is encountered, the electrode shall be driven at an oblique angle not to exceed 45 degrees from the vertical. A single electrode that does not have a resistance to ground of 25 ohms or less shall be augmented by one or more additional electrode of any type specified in N.E.C. section 250-81 or 250-83, and installed not less than 6 feet apart, connected by exothermic weld by a bonding jumper. Nonconductive coatings (such as paint, lacquer, and enamel) shall be removed from equipment, boxes and other contact surfaces.

3.3.5 Plastic Marking Tape

A five mil (5 mil) brightly colored plastic tape, not less than three inches(3") in width and suitably inscribed at not more than ten feet (10') on centers with a continuous metallic backing and a corrosion-resistant one mil (1 mil) metallic foil core to permit easy location of the duct line, shall be placed approximately twelve inches (12") below finished grade levels of such lines.

3.4 FIELD TESTING

3.4.1 General

Field testing shall be performed in the presence of the Contracting Officer. The Contractor shall notify the Contracting Officer 7 days prior to conducting tests. The Contractor shall furnish all materials, labor, and equipment necessary to conduct field tests. The Contractor shall perform all tests and inspections recommended by the manufacturer unless specifically waived by the Contracting Officer. The Contractor shall

maintain a written record of all tests which includes date, test performed, personnel involved, devices tested, serial number and name of test equipment, and test results. Field test reports shall be signed and dated by the Contractor.

3.4.2 Safety

The Contractor shall provide and use safety devices such as rubber gloves, protective barriers, and danger signs to protect and warn personnel in the test vicinity. The Contractor shall replace any devices or equipment which are damaged due to improper test procedures or handling.

3.4.3 Low-Voltage Cable Test

Low-voltage cable, complete with splices, shall be tested for insulation resistance after the cables are installed, in their final configuration, ready for connection to the equipment, and prior to energization. The test voltage shall be 500 volts dc, applied for one minute between each conductor and ground and between all possible combinations conductors in the same trench, duct, or cable, with all other conductors in the same trench, duct, or conduit. The minimum value of insulation shall be:

$$R \text{ in megohms} = \frac{(\text{rated voltage in kV} + 1) \times 1000}{\text{length of cable in feet}}$$

Each cable failing this test shall be repaired or replaced. The repaired cable shall be retested until failures have been eliminated.

3.5 ACCEPTANCE

Final acceptance of the facility will not be given until the Contractor has successfully completed As-Built Drawings, all tests and after all defects in installation, material or operation have been corrected and approved.

-- End of Section --