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# 10 MWE SOLAR THERMAL CENTRAL RECEIVER PILOT PLANT

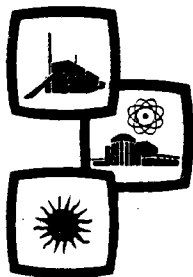
Thermal Storage and Plant  
Support Subsystem  
Foundations

TOWNSEND AND BOTTUM, INC.

TB-FB-96-80-JC50005

RECEIVED  
APR 13 1980  
TOWNSEND & BOTTUM INC.

F



# TOWNSEND AND BOTTUM, INC.

CONSTRUCTORS - CONSTRUCTION MANAGERS - FOR THE POWER INDUSTRY

P.O. Box 366

Daggett, California 92327

Telephone

(714) 254-2971

April 16, 1980

T&B/GEN-F114  
Information

Subject: 10 MWe Solar Pilot Plant  
Invitation for Bids  
TB-FB-96-80-JC50005  
Thermal Storage and Plant  
Support Subsystem Foundations

Gentlemen:

This invitation is issued pursuant to certain changed contractual arrangements between Townsend and Bottum, Inc., and the United States Department of Energy for the construction of the 10 MWe Solar Pilot Plant at Daggett, California.

Under this arrangement, Townsend and Bottum, Inc., will now issue most of the remaining subcontracts for the construction of the pilot plant rather than this work being done under prime contracts with the Department of Energy.

You are invited to submit a bid to Townsend and Bottum, Inc., for the Construction of the Thermal Storage and Plant Support Subsystem Foundations, IFB TB-FB-96-80-JC50005. The Department of Energy's terms and conditions including the Bid Documents, Instructions to Bidders, General Provisions, and General Conditions shall be used as Townsend and Bottum, Inc.'s bid package except as modified by the following:

- . Clarification of Terminology and Responsibilities
- . Deleted Provisions and Substitutions
- . Additional Provisions

Questions concerning this IFB should be directed to R. J. Frendt, Townsend and Bottum, Inc., P. O. Box 366, Daggett, CA 92327, Telephone (714) 254-2971.

Very truly yours,

TOWNSEND AND BOTTUM, INC.

R. D. Schwing  
Project Manager

RJS/ RJF/ar

cc: 208-00.11  
208-04.88



## Clarification of Terminology and Responsibilities

For the purposes of this IFB and any resulting subcontract the following terminology substitutions shall apply throughout the entire Department of Energy terms and conditions except as noted.

The term "sub - subcontractor" is substituted for the term "subcontractor" and shall mean a subcontractor of the successful bidder for this IFB.

The term "subcontractor" is substituted for the term "contractor" and shall mean the successful bidder with respect to this IFB.

The terms "Government", "Contracting Officer", "Department of Energy" and "DOE" shall mean Townsend and Bottum, Inc., except in the following provisions where they shall retain their original meaning unless otherwise noted.

1. Supplement to Standard Form 22, Clause 22, Information Regarding Buy American Act.
2. General Provisions - Standard Form 23-A, Clause 16, Use and Possession Prior to Completion.
3. General Provisions - Standard Form 23-A, Clause 23, Examination of Records by Comptroller General.
4. General Provisions - Standard Form 23-A, Clause 24, Buy American.
5. General Provisions - Supplement A to Standard Form 23-A, Clause 7, Payments to the Contractor, Subpart D.
6. General Provisions - Supplement A to Standard Form 23-A, Clause 21, Patent Indemnity.
7. General Provisions - Supplement A to Standard Form 23-A, Clause 29, Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals.
8. General Provisions - Supplement A to Standard Form 23-A, Clause 38, Reporting of Royalties.
9. General Provisions - Supplement A to Standard Form 23-A, Clause 41, Performance of Work by Contractor.
10. General Provisions - Supplement A to Standard Form 23-A, Clause 43, Audit.
11. General Provisions - Supplement A to Standard Form 23-A, Clause 48, Rights in Technical Data.
12. General Provisions - Supplement A to Standard Form 23-A, Clause 49, Authorization and Consent.

13. General Provisions - Supplement A to Standard Form 23-A, Clause 50, Government Furnished Property.
14. General Conditions, Clause 2, Interpretation of Terms, Subpart E.
15. General Conditions, Clause 31, Insurance.

In items 2,3,4,5,7,9,10,11,12,13,14, and 15 above the use of the terms "Government", "Contracting Officer", "Department of Energy" and "DOE" shall mean, and include, the U. S. Department of Energy, San Francisco Operations Office, 1333 Broadway, Oakland, California 94612.

In items 1 and 6 the use of the terms "Government", "Contracting Officer", "Department of Energy" and "DOE" shall include, the U.S. Department of Energy and/or Townsend and Bottum, Inc.

In item 8 above the use of the term "Government" in the first sentence shall mean Townsend and Bottum, Inc. The use of the terms "DOE" and "Government" in the second sentence shall mean the U. S. Department of Energy.

## Deleted Provisions and Substitutions

The following provisions appearing in the Department of Energy's terms and conditions are, hereby, deleted in their entirety and are not included as part of Townsend and Bottum, Inc.'s IFB documents.

1. General Provisions - Standard Form 23-A, Clause 8, Assignment of Claims.
2. General Provisions - Standard Form 23-A, Clause 19, Payment of Interest on Contractors Claims.
3. General Provisions - Standard Form 23-A, Clause 30, Utilization of Minority Business Enterprises.
4. General Provisions - Standard Form 23-A, Clause 39, Renegotiation.

The following substitutions are, hereby, made to the Department of Energy's terms and conditions:

1. General Provisions - Standard Form 23-A, Clause 6, Disputes is deleted in its entirety and replaced with the following:  
  
Any questions of fact not decided by mutual agreement of the parties shall be resolved by such legal and equitable remedies as may be otherwise available to the parties.
2. Instruction to Bidders - Supplement to SF-22, Clause 32, Subcontracting Plan for use in Formally Advertised Solicitations is deleted in its entirety and replaced with Townsend and Bottum, Inc.'s attached Subcontracting Plan.

## Additional Provisions

The following provisions are hereby added to the Department of Energy's terms and conditions and shall be considered as a portion of Townsend and Bottum, Inc.'s IFB package.

1. Instruction to Bidders - Supplement to SF-22, Clause 34, Business and Professions/Vocations Code.

### Clause 34 - BUSINESS AND PROFESSIONS/VOCATIONS CODE

Bidder's attention is directed to the requirements of the State of California Business and Professions/Vocations Code. It shall be the responsibility of each Bidder, on its own initiative, to review this Code and take whatever steps are necessary to comply with the provisions thereof in bidding, executing a Contract and in performing the Work of this project.

(a) "Contractor's State License Law" - Div. 3, Chapter 9) Under the provisions of the Code, the Bidder, at the time of submission of its bid, must be properly licensed in the appropriate classification of work to be performed.

2. Instructions to Bidders - Supplement to SF-22, Clause 35, Anti-Inflation Measures.

### Clause 35 - ANTI INFLATION MEASURES

The bidder is advised that any contract issued as a result of this solicitation shall contain the following clause:

#### CERTIFICATION - WAGE AND PRICE STANDARDS

(This clause is applicable if the award, or order under an existing contract or a supplemental agreement for new work is in excess of \$5 million, or the expected cumulative value of orders (when the contract is of the indefinite delivery type) is in excess of \$5 million.)

- (a) The Contractor hereby certifies that, as of the date of this action, he is in compliance with the Wage and Price Standards issued by the Council on Wage and Price Stability (6 CFR 705, Appendix, and Part 706).
- (b) If it is later determined after notice and opportunity to be heard, that the contractor was willfully not in compliance with such standards as of the date of this certification, then this contract may be terminated in accordance with the provisions of the Termination for Default Clause.

- (c) Should the Government determine that termination for default would not be in the public interest, the Contractor agrees that he will accept an equitable reduction of contract price or cost allowance and profit or fee, as appropriate under the circumstances.
- (d) The Contractor shall require a Certification - Wage and Price Standards limited to (a) above, as a condition of award of any first tier subcontract which exceeds \$5 million.

3. General Conditions - Clause 14, Shop, Assembly, Erection Drawings and Vendor Data, Paragraph 8.

Clause 14 - SHOP, ASSEMBLY, ERECTION DRAWINGS AND VENDOR DATA

- 8. The Construction Manager shall make their best effort to provide the Contractor shop drawing turnaround in 30 calendar days or less.

TOWNSEND AND BOTTUM, INC.  
10 MEGAWATT SOLAR PILOT PLANT  
SUBCONTRACTING PLAN

SMALL BUSINESS CONCERNS AND SMALL  
BUSINESS CONCERNS OWNED AND CONTROLLED BY  
SOCIALY AND ECONOMICALLY DISADVANTAGED INDIVIDUALS

1. POLICY

It is the policy of Townsend and Bottum, Inc., that small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals shall have the maximum practicable opportunity to participate in the performance of contracts by the Company.

Townsend and Bottum, Inc. hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with the efficient performance of this contract. The contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the Department of Energy as may be necessary to determine the extent of the contractor's compliance with this clause.

2. STANDARDS FOR EVALUATION

As used in this contract, the term "small business concern" shall mean a small business as defined pursuant to section 3 of the Small Business Act (15 U.S.C. 632) and relevant regulations promulgated pursuant thereto including Section 1-1.701 of the Federal Procurement Regulations. The term "small business concern owned and controlled by socially and economically disadvantaged individuals" shall mean a small business concern:

- (1) which is at least 51 per centum owned by one or more socially and economically disadvantaged individuals; or in the case of any publicly-owned business, at least 51 per centum of the stock of which is owned by one or more socially and economically disadvantaged individuals; and
- (2) whose management and daily business operations are controlled by one or more of such individuals.

The contractor shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native Americans, Asian Americans, and other specified minorities, or any other individual found to be disadvantaged by the Small Business Administration pursuant to section 8(a) of the Small Business Act.

3. CONTRACTOR'S GOAL

The U. S. Department of Energy (DOE) has set as its project goals a minimum utilization of Small and Small Disadvantaged Business in an amount of no less than twenty-five per cent (25%) and ten per cent (10%) respectively of its total construction dollar amount.

Townsend and Bottum, Inc. actively supports the goals of DOE and has adopted the same herein.



PRIOR TO CONTRACT AWARD, THE BIDDER MUST SUBMIT TO T&B A WRITTEN STATEMENT CONCERNING HIS EXPECTED UTILIZATION OF SMALL AND SMALL DISADVANTAGED BUSINESS.

Mr. Ronald D. Davis, Small Business Administrator, has overall responsibility for this program. His duties are to Administer, Coordinate and expand the utilization of Small Business Concerns and Small Business Concerns owned and controlled by socially and economically disadvantaged individuals. He reports directly to R. Schwing, Project Manager.

In order to assure that Small and Small Disadvantaged Business Concerns will have an equitable opportunity to compete for contracts, the following steps will be taken:

- A. When a Bidder submits its bid to T&B, it is encouraged to include the dollar amount and expected percentage of utilization that will be counted toward the fulfillment of its goals.
- B. Notices will be sent to the Department of Commerce, Minority Business Development Agency (MBDA) Clearinghouse and other Contractor Assistance Associations, whose members/clients might reasonably be expected to seek contracts or subcontracts.
- C. The T&B Small Business Administrator will actively work with various committies and organizations in disseminating information concerning contract opportunities.
- D. T&B will provide assistance in locating Small and Small Disadvantaged contractors to any Bidder making such a request.
- E. A pre-bid conference will be held by Townsend and Bottum, Inc. for all prospective bidders. At the conference, the Contract Administrator and the Small Business Administrator shall fully explain the nature and extent of the Small and Small Disadvantaged Business goals, the minority and women work-force requirements and all other standards related to equal opportunity and affirmative action.

#### 4. PRE-EXAMINATION OF SUBCONTRACTORS

Prospective Bidders, when formulating their bids, will have to decide for themselves whether a prospective subcontractor is qualified.

Townsend and Bottum, Inc. will not pre-examine or pre-qualify prospective subcontractors or sub-subcontractors.

Prospective Bidders who wish assistance in choosing qualified subcontractors are encouraged to contact support organizations such as the MBDA Clearinghouse at Operation Second Chance, Inc., San Bernardino (714) 884-8764. This Clearinghouse is mandated by an agreement between the Departments of Energy and Commerce to provide such assistance in cooperation with eight Local Business Development Centers in Southern California. Other support organizations include the Small Business Administration and Minority Contractors Association.

The role of a support organization is strictly informational. A report from one of the above mentioned support organizations indicating no detrimental information on a prospective subcontractor, or even a favorable report should not be taken as providing qualification of the prospective subcontractor. However, the MBDA Clearinghouse provides names from its roster only of clients who have returned a completed profile sheet to the Clearinghouse for review as to acceptability of the concern for inclusion in its list of clients.

#### 5. SUBMISSION OF BIDS

Because time will be needed to find minority firms BIDDERS ARE ADVISED TO LOCATE AND NEGOTIATE WITH POTENTIAL MINORITY SUBCONTRACTORS WELL IN ADVANCE OF THE PUBLIC BID OPENING

At the public bid opening T&B will determine the "apparent" low bidder and the amount of its bid.

The apparent low bidder shall, if necessary, be accorded 10 calendar days after the public bid opening to deliver to Townsend and Bottum, Inc. a written statement of expected Small and Small Disadvantaged Business utilization.

If no minority subcontractors are found in the 10 calendar days following the public bid opening, the bidder's efforts will be examined as part of its responsibility evaluation.

Whether a bidder is adjudged responsible under this plan will be based, in part, upon his good faith, best efforts, to achieve a reasonable Small and Small Disadvantaged Business utilization. Best efforts by the bidder shall include at a minimum:

1. The subcontractor's efforts in working with Townsend and Bottum, Inc. Small Business Officer, which includes notifying T&B if he is having any problems with locating disadvantaged business.
2. Whether the subcontractor has made known its desire for Small and Small Disadvantaged Business participation.
3. The subcontractor working with support organizations such as SBA, MBDA and Local Business Development Centers.
4. The subcontractor's efforts in utilizing industry "word of mouth" methods to locate subcontractors.
5. Maintain complete records documenting his efforts.

#### 6. RECORDS

Records will be maintained by Townsend and Bottum, Inc. showing:  
 (i) whether each prospective subcontractor is a small business concern or a small business concern owned and controlled by socially and

economically disadvantaged individuals; (ii) procedures which have been adopted to comply with the plan and the policies set forth in this clause; and (iii) with respect to the letting of any subcontract (including purchase orders) exceeding \$10,000 information substantially as follows:

- (A) Whether the award went to large business, small business or small business owned and controlled by socially and economically disadvantaged individuals.
- (B) Whether small business concerns or small business concerns owned and controlled by socially and economically disadvantaged individuals were solicited and the number of each so solicited.
- (C) The reason for nonsolicitation of small business concerns or small business concerns owned and controlled by socially and economically disadvantaged individuals if such was the case.
- (D) The reasons for failure of small business concerns or small business concerns owned and controlled by socially and economically disadvantaged individuals to receive the award and their numbers if such was the case, when such firms were solicited.

Townsend and Bottum, Inc. will prepare quarterly reports for subcontracting of such concerns on forms as may be specified by the U.S. Department of Energy. These forms will be submitted to the U.S. Department of Energy with copies to the MBDA Clearinghouse at Operation Second Chance, Inc., San Bernardino, in keeping with the Memorandum of Understanding between the Departments of Energy and Commerce.

IFB FOR CONSTRUCTION  
of  
THE 10 MWe SOLAR THERMAL  
CENTRAL RECEIVER PILOT PLANT  
THERMAL STORAGE AND PLANT SUPPORT  
SUBSYSTEM FOUNDATIONS

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## Section 1

### Bid Documents

1. Invitation to Bid
2. Bid Form
3. Representations and Certifications
4. Construction Contract
5. Labor Standards Provisions (Davis-Bacon Act)
6. Supplement A to Standard Form 19-A, Nov. 1972 Edition
7. Department of Labor Wage Determination Decision CA 78-5123 dtd. 8/18/78 and Modifications Nos. 1, 2, 3, 4, 5, 6, 7, 8, and 9 thereto.

REFERENCE

Invitation No.  
TB-FB-96-80-JC50005

**INVITATION FOR BIDS  
(CONSTRUCTION CONTRACT)**

DATE  
April 16, 1980

NAME AND LOCATION OF PROJECT

TSS & PSS Foundations  
10 MWe Solar Thermal Central Receiver  
Pilot Plant  
Daggett, California 92327

DEPARTMENT OR AGENCY

Townsend and Bottum, Inc.  
Field Construction Office  
Santa Fe Street  
P. O. Box 366  
Daggett, California 92327

BY (Issuing office)

Sealed bids in original and four copies for the work described herein will be received until 2:00 p.m., local time as indicated by the conference room clock

at Townsend and Bottum, Inc.  
Field Construction Office  
Santa Fe Street  
Daggett, California 92327 on May 15, 1980

and at that time publicly opened.

Information regarding bidding material, bid guarantee, and bonds

A bid guarantee in a form specified in the Instructions to Bidders, SF-22, in a penal sum of not less than 20% of the total bid price will be required with each bid if the bid price is in excess of \$2,000.00. If a surety bond is submitted, it shall be on the U.S. Standard Form 24.

Wage Determination. The wage rates set forth are the minimum rates which may be paid to the classifications of laborers and mechanics designated therein pursuant to the Davis-Bacon Act (Act of March 3, 1931, as amended; 40U.S.C. 276A et seq.). Neither the Government nor Townsend and Bottum, Inc., represents that said minimum rates do now, nor that they will at any time in the future, prevail in the locality of the work for such laborers or mechanics; nor that such mechanics or laborers are or will be obtained at said rates for work under this contract, nor that said rates represent the most recent wage determination by the Secretary of Labor with respect to such classifications of laborers or mechanics in the locality of the work. The wage determination applicable to the resulting contract is attached.

Description of work

The work to be performed under this contract includes 1) constructing reinforced, cast-in-place concrete foundations for buildings and equipment. 2) constructing the aggregate base for three fluid storage tanks and roadways. 3) furnishing and installing drain piping and conduit embedded in or beneath concrete foundations. 4) furnishing and installing the Thermal Storage Tank foundation instrumentation. 5) fine grading the site tower circle area (400' diameter).

NOTE: This is a Small Business Set-Aside

Over

NOTE: A site inspection will be conducted at 10:00 a.m., local time on April 30, 1980. All personnel who plan to visit the site should contact Mr. Bob Frendt, Townsend and Bottum, Inc., P. O. Box 366, Daggett, CA 92327, Telephone (714) 254-2971 before 3:00 p.m., April 29, 1980 of their intent to visit.



**BID FORM  
(Construction Contract)**

REFERENCE

Invitation for Bid No.  
TB-FB-96-80-JC50005

*Read the instructions to Bidders (Standard Form 22).  
This form is to be submitted in*

DATE OF INVITATION

April 16, 1980

NAME AND LOCATION OF PROJECT

TSS & PSS Foundations  
10 MWe Solar Thermal Central  
Receiver Pilot Plant  
Daggett, California

BIDDER'S NAME AND ADDRESS (Include ZIP Code) (Type or print)

TELEPHONE NUMBER (Include Area Code)

DATE

TO: Townsend and Bottum, Inc.  
Field Construction Office  
Santa Fe Street  
P. O. Box 366  
Daggett, California 92327

In compliance with the above-dated invitation for bids, the undersigned hereby proposes to perform all work ~~XXX~~ including 1) constructing reinforced, cast-in-place concrete fdns. for bldgs. and eqpt. 2) constructing the aggregate base for three fluid storage tanks and roadways. 3) furnishing and installing drain piping and conduit embedded in or beneath concrete fdns. 4) furnishing and installing the Thermal Storage Tank Fdn. instrumentation. 5) fine grading the site tower circle area (400' diameter). in strict accordance with the General Provisions (Standard Form 23-A), Labor Standards Provisions Applicable to Contracts in Excess of \$2,000 (Standrd Form 19-A), specifications, schedules, drawings, and conditions, for the following amount(s)

The undersigned agrees that, upon written acceptance of this bid, mailed or otherwise furnished within 60 calendar days (\*\*calendar days unless a different period be inserted by the bidder) after the date of opening of bids, he will within 15 calendar days (unless a longer period is allowed) after receipt of the prescribed forms, execute Standard Form 23, Construction Contract, and give performance and payment bonds on Government standard forms with good and sufficient surety. The undersigned further agrees that, when reinsurance agreements are contemplated, all necessary reinsurance agreements will be on Government forms and will be executed and submitted with the bonds. However, when an additional period of 30 days (not to exceed 45 calendar days) is authorized by the procuring activity, reinsurance agreements may be submitted within such period after the execution of the bond.

The undersigned agrees, if awarded the contract, to commence the work within 10 calendar days after the date of receipt of notice to proceed, and to complete the work within 140 calendar days after the date of receipt of notice to proceed.

**\*\*Bids acceptance period.** Bids offering less than 60 days for acceptance by the Government from the date set for opening will be considered nonresponsive and will be rejected.

**RECEIPT OF AMENDMENTS:** *The undersigned acknowledges receipt of the following amendments of the invitation for bids, drawings, and/or specifications, etc. (Give number and date of each):*

|               |  |  |  |  |  |
|---------------|--|--|--|--|--|
| AMENDMENT NO. |  |  |  |  |  |
| DATE          |  |  |  |  |  |
| AMENDMENT NO. |  |  |  |  |  |
| DATE          |  |  |  |  |  |

**The representations and certifications on the accompanying STANDARD FORM 19-B are made a part of this bid.**

|  |  |  |
|--|--|--|
| ENCLOSED IS BID GUARANTEE, CONSISTING OF                         |  | IN THE AMOUNT OF                                 |
| NAME OF BIDDER <i>(Type or print)</i>                            |  | FULL NAME OF ALL PARTNERS <i>(Type or print)</i> |
| BUSINESS ADDRESS <i>(Type or print) (Include "ZIP Code")</i>     |  |  |
| BY <i>(Signature in ink. Type or print name under signature)</i> |  |  |
| TITLE <i>(Type or print)</i>                                     |  |  |

**DIRECTIONS FOR SUBMITTING BIDS:** *Envelopes containing bids, guarantee, etc., must be sealed, marked, and addressed as follows:*

Sealed and marked Bids for IFB TB-FB-96-80-JC50005 shall be mailed or delivered to the address as shown on the facing page. Bid opening will occur at 2:00 p.m., local time May 15, 1980. The conference room clock will be used to determine the time of bid opening.

**CAUTION—Bids should not be qualified by exceptions to the bidding conditions.**

STANDARD FORM 21 BACK (Rev. 2-78)

**REPRESENTATIONS AND CERTIFICATIONS****(Construction and Architect-Engineer Contract)****(For use with Standard Forms 19, 21 and 252)**

REFERENCE (Enter same No.(s) as on SF 19, 21 and 252)

NAME AND ADDRESS OF BIDDER (No., Street, City, State, and ZIP Code)

DATE OF BID

*In negotiated procurements, "bid" and "bidder" shall be construed to mean "offer" and "offeror."*

The bidder makes the following representations and certifications as a part of the bid identified above. (Check appropriate boxes.)

**1. SMALL BUSINESS**

He  is,  is not, a small business concern. (A small business concern for the purpose of Government procurement is a concern, including its affiliates, which is independently owned and operated, is not dominant in the field of operations in which it is bidding on Government contracts, and can further qualify under the criteria concerning number of employees, average annual receipts, or other criteria as prescribed by the Small Business Administration. For additional information see governing regulations of the Small Business Administration (13 CFR Part 121)).

**2. MINORITY BUSINESS ENTERPRISE**

He  is,  is not a minority business enterprise. A minority business enterprise is defined as a "business, at least 50 percent of which is owned by minority group members or, in case of publicly owned businesses, at least 51 percent of the stock of which is owned by minority group members." For the purpose of this definition, minority group members are Negroes, Spanish-speaking American persons, American-Orientals, American-Indians, American-Eskimos, and American-Aleuts."

**3. CONTINGENT FEE**

(a) He  has,  has not, employed or retained any company or person (other than a full-time bona fide employee working solely for the bidder) to solicit or secure this contract, and (b) he  has,  has not, paid or agreed to pay any company or person (other than a full-time bona fide employee working solely for the bidder) any fee, commission, percentage or brokerage fee, contingent upon or resulting from the award of this contract; and agrees to furnish information relating to (a) and (b) above as requested by the Contracting Officer. (For interpretation of the representation, including the term "bona fide employee," see Code of Federal Regulations, Title 41, Subpart 1-1.5.)

**4. TYPE OF ORGANIZATION**

He operates as an  individual,  partnership,  joint venture,  corporation, incorporated in State of .....

**5. INDEPENDENT PRICE DETERMINATION**

(a) By submission of this bid, each bidder certifies, and in the case of a joint bid each party thereto certifies as to his own organization, that in connection with this procurement:

(1) The prices in this bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, in the case of a bid, or prior to award, in the case of a proposal, directly or indirectly to any other bidder or to any competitor; and

(3) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition.

(b) Each person signing this bid certifies that:

(1) He is the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein and that he has not participated, and will not participate, in any action contrary to (a) (1) through (a) (3) above; or

(2) (i) He is not the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to (a) (1) through (a) (3) above, and as their agent does hereby so certify; and (ii) he has not participated, and will not participate, in any action contrary to (a) (1) through (a) (3) above.

(c) This certification is not applicable to a foreign bidder submitting a bid for a contract which requires performance or delivery outside the United States, its possessions, and Puerto Rico.

(d) A bid will not be considered for award where (a) (1), (a) (3), or (b) above, has been deleted or modified. Where (a) (2) above, has been deleted or modified, the bid will not be considered for award unless the bidder furnishes with the bid a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

NOTE.—Bids must set forth full, accurate, and complete information as required by this invitation for bids (including attachments). The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

THE FOLLOWING NEED BE CHECKED ONLY IF BID EXCEEDS \$10,000 IN AMOUNT.

#### 6. EQUAL OPPORTUNITY

He  has,  has not, participated in a previous contract or subcontract subject to the Equal Opportunity Clause herein, the clause originally contained in Section 301 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114; he  has,  has not, filed all required compliance reports; and representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained prior to subcontract awards.

(The above representations need not be submitted in connection with contracts or subcontracts which are exempt from the equal opportunity clause.)

#### 7. PARENT COMPANY AND EMPLOYER IDENTIFICATION NUMBER

Each bidder shall furnish the following information by filling in the appropriate blocks:

(a) Is the bidder owned or controlled by a parent company as described below?  Yes  No. (For the purpose of this bid, a parent company is defined as one which either owns or controls the activities and basic business policies of the bidder. To own another company means the parent company must own at least a majority (more than 50 percent) of the voting rights in that company. To control another company, such ownership is not required; if another company is able to formulate, determine, or veto basic business policy decisions of the bidder, such other company is considered the parent company of the bidder. This control may be exercised through the use of dominant minority voting rights, use of proxy voting, contractual arrangements, or otherwise.)

(b) If the answer to (a) above is "Yes," bidder shall insert in the space below the name and main office address of the parent company.

NAME OF PARENT COMPANY

MAIN OFFICE ADDRESS (No., Street, City, State, and ZIP Code)

(c) Bidder shall insert in the applicable space below, if he has no parent company, his own Employer's Identification Number (E.I. No.) (Federal Social Security Number used on Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941), or, if he has a parent company, the E.I. No. of his parent company.

EMPLOYER  
IDENTIFICATION NUMBER OF



PARENT COMPANY

BIDDER

#### 8. CERTIFICATION OF NONSEGREGATED FACILITIES

(Applicable to (1) contracts, (2) subcontracts, and (3) agreements with applicants who are themselves performing federally assisted construction contracts, exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause.)

By the submission of this bid, the bidder, offeror, applicant, or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" 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 which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

#### NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES

A Certification of Nonsegregated Facilities must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

#### 9. CLEAN AIR AND WATER

(Applicable if the bid or offer exceeds \$100,000, or the contracting officer has determined that orders under an indefinite quantity contract in any year will exceed \$100,000, or a facility to be used has been the subject of a conviction under the Clean Air Act (42 U.S.C. 1857c-8(c)(1)) or the Federal Water Pollution Control Act (33 U.S.C. 1319(c)) and is listed by EPA, or is not otherwise exempt.)

The bidder or offeror certifies as follows:

(a) Any facility to be utilized in the performance of this proposed contract has , has not , been listed on the Environmental Protection Agency List of Violating Facilities.

(b) He will promptly notify the contracting officer, prior to award, of the receipt of any communication from the Director, Office of Federal Activities, Environmental Protection Agency, indicating that any facility which he proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities.

(c) He will include substantially this certification, including this paragraph (c), in every nonexempt subcontract.

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## INSTRUCTIONS TO BIDDERS

(CONSTRUCTION CONTRACT)

1. **Explanations to Bidders.** Any explanation desired by a bidder regarding the meaning or interpretation of the invitation for bids, drawings, specifications, etc., must be requested in writing and with sufficient time allowed for a reply to reach bidders before the submission of their bids. Any interpretation made will be in the form of an amendment of the invitation for bids, drawings, specifications, etc., and will be furnished to all prospective bidders. Its receipt by the bidder must be acknowledged in the space provided on the Bid Form (Standard Form 21) or by letter or telegram received before the time set for opening of bids. Oral explanations or instructions given before the award of the contract will not be binding.

2. **Conditions Affecting the Work.** Bidders should visit the site and take such other steps as may be reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Failure to do so will not relieve bidders from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Government will assume no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of the contract, unless included in the invitation for bids, the specifications, or related documents.

3. **Bidder's Qualifications.** Before a bid is considered for award, the bidder may be requested by the Government to submit a statement regarding his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the work.

4. **Bid Guarantee.** Where a bid guarantee is required by the invitation for bids, 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.

A bid guarantee shall be in the form of a firm commitment, such as a bid bond, postal money order, certified check, cashier's check, irrevocable letter of credit or, in accordance with Treasury Department regulations, cer-

tain bonds or notes of the United States. Bid guarantees, other than bid bonds, will be returned (a) to unsuccessful bidders as soon as practicable after the opening of bids, and (b) to the successful bidder upon execution of such further contractual documents and bonds as may be required by the bid as accepted.

If the successful bidder, upon acceptance of his bid by the Government within the period specified therein for acceptance (sixty days if no period is specified) fails to execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (ten days if no period is specified) after receipt of the forms by him, his contract may be terminated for default. In such event he shall be liable for any cost of procuring the work which exceeds the amount of his bid, and the bid guarantee shall be available toward offsetting such difference.

5. **Preparation of Bids.** (a) Bids shall be submitted on the forms furnished, or copies thereof, and must be manually signed. If erasures or other changes appear on the forms, each erasure or change must be initialed by the person signing the bid. Unless specifically authorized in the invitation for bids, telegraphic bids will not be considered.

(b) The bid form may provide for submission of a price or prices for one or more items, which may be lump sum bids, alternate prices, scheduled items resulting in a bid on a unit of construction or a combination thereof, etc. Where the bid form explicitly requires that the bidder bid on all items, failure to do so will disqualify the bid. When submission of a price 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.

(c) Unless called for, alternate bids will not be considered.

(d) Modifications of bids already submitted will be considered if received at the office designated in the invitation for bids by the time set for opening of bids. Telegraphic modifications will be considered, but should not reveal the amount of the original or revised bid.

6. Submission of Bids. Bids must be sealed, marked, and addressed as directed in the invitation for bids. Failure to do so may result in a premature opening of, or a failure to open, such bid.

7. Late Bids and Modifications or Withdrawals. (This paragraph applies to all advertised solicitations. In the case of Department of Defense negotiated solicitations, it shall also apply to late offers and modifications (other than the normal revisions of offers by selected offerors during the usual conduct of negotiations with such offerors) but not to withdrawal of offers. Unless otherwise provided, this paragraph does not apply to negotiated solicitations issued by civilian agencies.)

(a) Bids and modifications or withdrawals thereof received at the office designated in the invitation for bids after the exact time set for opening of bids will not be considered unless: (1) They are received before award is made; and either (2) they are sent by registered mail, or by certified mail for which an official dated post office stamp (postmark) on the original Receipt for Certified Mail has been obtained and it is determined by the Government that the late receipt was due solely to delay in the mails for which the bidder was not responsible; or (3) if submitted by mail (or by telegram if authorized), it is determined by the Government that the late receipt was due solely to mishandling by the Government after receipt at the Government installation: *Provided*, That timely receipt at such installation is established upon examination of an appropriate date or time stamp (if any) of such installation, or of other documentary evidence of receipt (if readily available) within the control of such installation or of the post office serving it. However, a modification which makes the terms of the otherwise successful bid more favorable to the Government will be considered at any time it is received and may thereafter be accepted.

(b) Bidders using certified mail are cautioned to obtain a Receipt for Certified Mail showing a legible, dated postmark and to retain such receipt against the chance that it will be required as evidence that a late bid was timely mailed.

(c) The time of mailing of late bids submitted by registered or certified mail shall be deemed to be the last minute of the date shown in the postmark on the registered mail receipt or registered mail wrapper or on

the Receipt for Certified Mail unless the bidder furnishes evidence from the post office station of mailing which establishes an earlier time. In the case of certified mail, the only acceptable evidence is as follows: (1) Where the Receipt for Certified Mail identifies the post office station of mailing, evidence furnished by the bidder which establishes that the business day of that station ended at an earlier time, in which case the time of mailing shall be deemed to be the last minute of the business day of that station; or (2) an entry in ink on the Receipt for Certified Mail showing the time of mailing and the initials of the postal employee receiving the item and making the entry, with appropriate written verification of such entry from the post office station of mailing, in which case the time of mailing shall be the time shown in the entry. If the postmark on the original Receipt for Certified Mail does not show a date, the bid shall not be considered.

8. Withdrawal of Bids. Bids may be withdrawn by written or telegraphic request received from bidders prior to the time set for opening of bids.

9. Public Opening of Bids. Bids will be publicly opened at the time set for opening in the invitation for bids. Their content will be made public for the information of bidders and others interested, who may be present either in person or by representative.

10. Award of Contract. (a) Award of contract will be made to that responsible bidder whose bid, conforming to the invitation for bids, is most advantageous to the Government, price and other factors considered.

(b) The Government may, when in its interest, reject any or all bids or waive any informality in bids received.

(c) The Government may accept any item or combination of items of a bid, unless precluded by the invitation for bids or the bidder includes in his bid a restrictive limitation.

11. Contract and Bonds. The bidder whose bid is accepted will, within the time established in the bid, enter into a written contract with the Government and, if required, furnish performance and payment bonds on Government standard forms in the amounts indicated in the invitation for bids or the specifications.

## LABOR STANDARDS PROVISIONS

### APPLICABLE TO CONTRACTS IN EXCESS OF \$2,000

#### 1. DAVIS-BACON ACT (40 U.S.C. 276a-276a-7)

(a) All mechanics and laborers, including apprentices and trainees, employed or working directly upon the site of the work shall 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 the Copeland Regulations, 29 CFR Part 3), the full amounts due at time of payment computed at wage rates not less than the aggregate of the basic hourly rates and the rates of payments, contributions, or costs for any fringe benefits contained in the wage determination decision 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 or subcontractor and such laborers and mechanics. A copy of such wage determination decision shall be kept posted by the Contractor at the site of the work in a prominent place where it can be easily seen by the workers.

(b) The Contractor may discharge his obligation under this clause to workers in any classification for which the wage determination decision contains:

(1) Only a basic hourly rate of pay, by making payment at not less than such basic hourly rate, except as otherwise provided in the Copeland Regulations (29 CFR Part 3); or

(2) Both a basic hourly rate of pay and fringe benefits payments, by making payment in cash, by irrevocably making contributions pursuant to a fund, plan, or program for, and/or by assuming an enforceable commitment to bear the cost of, bona fide fringe benefits contemplated by the Davis-Bacon Act, or by any combination thereof. Contributions made, or costs assumed, on other than a weekly basis shall be considered as having been constructively made or assumed during a weekly period to the extent that they apply to such period. Where a fringe benefit is expressed in a wage determination in any manner other than as an hourly rate and the Contractor pays a cash equivalent or provides an alternative fringe benefit, he shall furnish information with his payrolls showing how he determined that the cost incurred to make the cash payment or to provide the alternative fringe benefit is equal to the cost of the wage determination fringe benefit. In any case where the Contractor provides a fringe benefit different from any contained in the wage determination, he shall similarly show how he arrived at the hourly rate shown therefor. In the event of disagreement between or among the interested parties as to an equivalent of any fringe benefit, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination.

(c) The assumption of an enforceable commitment to bear the cost of fringe benefits, or the provision of any fringe benefits not expressly listed in section 1(b)(2) of the Davis-Bacon Act or in the wage determination decision forming a part of the contract, may be considered as payment of wages only with the approval of the Secretary of Labor pursuant to a written request by the Contractor. The Secretary of Labor may require the Contractor to set aside assets, in a separate account, to meet his obligations under any unfunded plan or program.

(d) The Contracting Officer shall require that any class of laborers or mechanics, including apprentices and trainees, which is not listed in the wage determination decision and which is to be employed under the contract shall be classified or reclassified conformably to the wage determination decision, and shall report the action taken to the Secretary of Labor. If the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers or mechanics to be used, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination. Apprentices and trainees may be added under this clause only where they are employed pursuant to an apprenticeship or trainee program meeting the requirements of the Apprentices and Trainees clause below.

(e) In the event it is found by the Contracting Officer that any laborer or mechanic, including apprentices and trainees, employed by the Contractor or any subcontractor directly on the site of the work covered by this contract has been or is being paid at a rate of wages less than the rate of wages required by paragraph (a) of this clause, the Contracting Officer may (1) by written notice to the Government Prime Contractor terminate his right to proceed with the work, or such part of the work as to which there has been a failure to pay said required wages, and (2) prosecute the work to completion by contract or otherwise, whereupon such Contractor and Subcontractor and his sureties shall be liable to the Government for any excess costs occasioned the Government thereby.

(f) Paragraphs (a) through (e) of the clause shall apply to this contract to the extent that it is (1) a prime contract with the Government subject to the Davis-Bacon Act, or (2) a subcontract also subject to the Davis-Bacon Act under such prime contract.

#### 2. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT—OVERTIME COMPENSATION (40 U.S.C. 327-333).

*This contract is subject to the Contract Work Hours and Safety Standards Act and to the applicable rules, regulations, and interpretations of the Secretary of Labor.*

(a) The Contractor shall not require or permit any laborer or mechanic, including apprentices, trainees, watchmen, and guards, in any workweek in which he is employed on any work under this contract to work in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek on work subject to the provisions of the Contract Work Hours and Safety Standards Act unless such laborer or mechanic, including apprentices, trainees, watchmen, and guards, receives compensation at a rate not less than 1½ times his basic rate of pay for all such hours worked in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek, whichever is the greater number of overtime hours. The "basic rate of pay," as used in this clause, shall be the amount paid per hour exclusive of the Contractor's contribution or cost for fringe benefits, and any cash payment made in lieu of providing fringe benefits, or the basic hourly rate contained in the wage determination, whichever is greater.

(b) In the event of any violation of the provisions of paragraph (a), the Contractor shall be liable to any affected employee for any amounts due, and to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including an apprentice, trainee, watchman, or guard, employed in violation of the provisions of paragraph (a) in the sum of \$10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of 8 hours or in excess of the standard workweek of 40 hours without payment of the overtime wages required by paragraph (a).

#### 3. APPRENTICES AND TRAINEES

(a) Apprentices shall be permitted to work as such only when they are registered, individually, under a bona fide apprenticeship program registered with a State apprenticeship agency which is recognized by the Bureau of Apprenticeship and Training, U.S. Department of Labor; or if no such recognized agency exists in a State, under a program registered with the Federal Bureau of Apprenticeship and Training. The allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio permitted to the Contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate who is not a trainee as defined in paragraph (b) of this clause, and who is not registered as above, shall be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The Contractor shall furnish to the Contracting Officer written evidence of the registration of his program and apprentices, as well as of the appropriate ratios allowed and the wage rates required to be paid thereunder in the area of construction, prior to using any apprentices in the contract work. The term "apprentice" means (1) a person employed and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or (2) a person in his 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 Council (where appropriate) to be eligible for probationary employment as an apprentice.

(b) Trainees shall be permitted to work as such when they are bona fide trainees employed pursuant to a program approved by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training. The term "trainee" means a person receiving on-the-job training in a construction occupation under a program which is approved (but not necessarily sponsored) by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training, and which is reviewed from time to time by the Manpower Administration to insure that the training meets adequate standards.

(c) In connection with contracts in excess of \$10,000, the Contractor agrees as follows:

(1) The Contractor shall make a diligent effort to hire for performance of work under this contract a number of apprentices or trainees, or both, in each occupation, which bears to the average number of the journeymen in that occupation to be employed in the performance of the contract the applicable ratio as set forth in paragraph (c)(7) of this clause.

(2) The Contractor shall insure that 25 percent of such apprentices or trainees in each occupation are in their first year of training, where feasible. Feasibility here involves a consideration of (i) the availability of training opportunities for first year apprentices, (ii) the hazardous nature of the work for beginning workers, and (iii) excessive unemployment of apprentices in their second and subsequent years of training.

(3) The Contractor shall, during the performance of the contract, to the greatest extent possible, employ the number of apprentices or trainees necessary to meet currently the requirements of paragraph (c)(1) and (c)(2) of this clause.

(4) The Contractor shall maintain records of employment on this contract by trade of the number of apprentices and trainees, apprentices and trainees in first year of training, and of journeymen, and wages paid and hours of work of such apprentices, trainees, and journeymen. In addition, the Contractor who claims compliance based on the criterion set forth in paragraph (c)(6)(ii) of this clause shall maintain such records of employment on all his construction work in the same labor market area, both public and private, during the performance of this contract. In each of the above cases the Contractor shall make such records available for inspection upon request of the Department of Labor or the Contracting Officer.

(5) The Contractor shall supply one copy of each of the written notices required in accordance with paragraph (c)(6)(iii) of this clause at the request of the Contracting Officer. The Contractor also agrees to supply at 3-month intervals during the performance of the contract and after completion of contract performance a statement describing steps taken toward making a diligent effort and containing a breakdown by craft, of hours worked and wages paid for first year apprentices and trainees, other apprentices and trainees, and journeymen. One copy of the statement will be sent to the Contracting Officer and one copy to the Secretary of Labor.

(6) The Contractor will be deemed to have made a "diligent effort" as required by paragraph (c)(1) if during the performance of this contract, he accomplishes at least one of the following three objectives: (i) The Contractor employs under this contract a number of apprentices and trainees by craft, at least equal to the ratios established in accordance with paragraph (c)(7) of this clause, or (ii) the Contractor employs, on all his construction work, both public and private, in the same labor

market area, an average number of apprentices and trainees by craft at least equal to the ratios established in accordance with paragraph (c) (7) of this clause, or (iii) the Contractor (A) if covered by a collective bargaining agreement, before commencement of any work on the project, has given written notice to all joint apprenticeship committees, the local U.S. Employment Security Office, local chapter of the Urban League, Workers Defense League, or other local organizations concerned with minority employment, and the Bureau of Apprenticeship and Training Representative, U.S. Department of Labor, for the locality of the work; (B) if not covered by a collective bargaining agreement, has given written notice to all of the groups stated above, except joint apprenticeship committees, and will in addition notify all non-joint apprenticeship sponsors in the labor market area; (C) has employed all qualified applicants referred to him through normal channels (such as the Employment Service, the Joint Apprenticeship Committees and where applicable, minority organizations and apprentice outreach programs who have been delegated this function) at least up to the number of such apprentices and trainees required by paragraph (c) (7) of this clause. The notice, as referred to herein, will include at least the Contractor's name and address, the agency designation, the contract number, job site address, value of the contract, expected starting and completion dates, the estimated average number of employees in each occupation to be employed over the duration of the contract work, and a statement of his willingness to employ a number of apprentices and trainees at least equal to the ratios established in accordance with paragraph (c) (7) of this clause.

(7) The Contractor recognizes that the Secretary of Labor has determined that the applicable ratios of apprentices and trainees to journeymen in any occupation for the purpose of this clause shall be as follows: (i) In any occupation the applicable ratio of apprentices and trainees to journeymen shall be equal to the predominant ratio for the occupation in the area where the construction is being undertaken, set forth in collective bargaining agreements, or other employment agreements, and available through the Bureau of Apprenticeship and Training Representative, U.S. Department of Labor, for the applicable area; (ii) for any occupation for which no ratio is found, the ratio of apprentices and trainees to journeymen shall be determined by the Contractor in accordance with the recommendations set forth in the Standards of the National Joint Apprentice Committee for the occupation, which are on file at offices of the U.S. Department of Labor's Bureau of Apprenticeship and Training; and (iii) for any occupation for which no such recommendations are found, the ratio of apprentices and trainees to journeymen shall be at least one apprentice or trainee for every five journeymen.

#### 4. PAYROLLS AND BASIC RECORDS

(a) The Contractor shall maintain payrolls and basic records relating thereto during the course of the work and shall preserve them for a period of 3 years thereafter for all laborers and mechanics, including apprentices, trainees, watchmen, and guards working at the site of the work. Such records shall contain the name and address of each such employee, his correct classification, rate of pay (including rates of contributions for, or costs assumed to provide, fringe benefits), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Contractor has obtained approval from the Secretary of Labor as provided in paragraph (c) the clause entitled "Davis-Bacon Act," he shall maintain records which show the commitment, its approval, written communication of the plan or program to the laborers or mechanics affected, and the costs anticipated or incurred under the plan or program.

(b) The Contractor shall submit weekly a copy of all payrolls to the Contracting Officer. The Government Prime Contractor shall be responsible for the submission of copies of payrolls of all subcontractors. The copy shall be accompanied by a statement signed by the Contractor indicating that the payrolls are correct and complete, that the wage rates contained

therein are not less than those determined by the Secretary of Labor, and that the classifications set forth for each laborer or mechanic, including apprentices and trainees, conform with the work he performed. Submission of the "Weekly Statement of Compliance" required under this contract and the Copeland Regulations of the Secretary of Labor (29 CFR Part 3) shall satisfy the requirement for submission of the above statement. The Contractor shall submit also a copy of any approval by the Secretary of Labor with respect to fringe benefits which is required by paragraph (c) of the clause entitled "Davis-Bacon Act."

(c) The Contractor shall make the records required under this clause available for inspection by authorized representatives of the Contracting Officer and the Department of Labor, and shall permit such representatives to interview employees during working hours on the job.

#### 5. COMPLIANCE WITH COPELAND REGULATIONS

The Contractor shall comply with the Copeland Regulations of the Secretary of Labor (29 CFR Part 3) which are incorporated herein by reference.

#### 6. WITHHOLDING OF FUNDS

(a) The Contracting Officer may withhold or cause to be withheld from the Government Prime Contractor so much of the accrued payments or advances as may be considered necessary (1) to pay laborers and mechanics, including apprentices, trainees, watchmen, and guards employed by the Contractor or any subcontractor on the work the full amount of wages required by the contract, and (2) to satisfy any liability of any Contractor and Subcontractor for liquidated damages under paragraph (b) of the clause entitled "Contract Work Hours and Safety Standards Act—Overtime Compensation."

(b) If any Contractor or subcontractor fails to pay any laborer, mechanic, apprentice, trainee, watchman, or guard employed or working on the site of work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Government Prime Contractor, take such action as may be necessary to cause suspension of any further payments or advances until such violations have ceased.

#### 7. SUBCONTRACTS

The Contractor agrees to insert the clauses hereof entitled "Davis-Bacon Act," "Contract Work Hours and Safety Standards Act—Overtime Compensation," "Apprentices and Trainees," "Payrolls and Basic Records," "Compliance with Copeland Regulations," "Withholding of Funds," "Subcontracts," and "Contract Termination—Debarment" in all subcontracts. The term "Contractor" as used in such clauses in any subcontract shall be deemed to refer to the subcontractor except in the phrase "Government Prime Contractor."

#### 8. CONTRACT TERMINATION—DEBARMENT

A breach of the clauses hereof entitled "Davis-Bacon Act," "Contract Work Hours and Safety Standards Act—Overtime Compensation," "Apprentices and Trainees," "Payrolls and Basic Records," "Compliance with Copeland Regulations," "Withholding of Funds," and "Subcontracts" may be grounds for termination of the contract, and for debarment as provided in 29 CFR 5.6.

#### 9. DISPUTES CONCERNING LABOR STANDARDS

Disputes arising out of the labor standards provisions of this contract shall be subject to the Disputes clause except to the extent such disputes involve the meaning of classifications or wage rates contained in the wage determination decision of the Secretary of Labor or the applicability of the labor provisions of this contract which questions shall be referred to the Secretary of Labor in accordance with the procedures of the Department of Labor.



The following alterations in or additions to the representations and certifications of Standard Form 19B are hereby made:

1. Representation and Certification 1 entitled "Small Business" is deleted in its entirety and the following substituted therefor:

"1. SMALL AND SMALL DISADVANTAGED BUSINESS CERTIFICATION

- (a) The bidder ( ) contractor ( ) certifies that he is ( ) is not ( ) a small business concern as defined in accordance with Section 3 of the Small Business Act (15 U.S.C. 632). (For additional information see governing regulations of the Small Business Administration (13 CFR Part 12), 41 CFR 1-1.7 and the small business size standard set forth in the solicitation, if any);
- (b) The bidder ( ) contractor ( ) certifies that he is a small business (as set forth in (a) above) and is ( ) is not ( ) owned and controlled by socially and economically disadvantaged individuals. Such a firm is defined as one -
  - (i) which is at least 51 per centum owned by one or more such individuals or, in the case of publicly owned business, at least 51 per centum of the stock is owned by such individuals,
  - (ii) whose management and daily business operations are controlled by one or more such individuals, and
  - (iii) which certifies concerning said ownership and control in accordance with section (c) below.
- (c) The bidder ( ) contractor ( ) certifies that he is ( ) is not ( ) a minority individual(s) in accordance with (c)(i) below or that he is ( ) is not ( ) socially and economically disadvantaged in accord with section (c)(ii) or (c)(iii). Socially and economically disadvantaged individuals are defined as:
  - (i) United States citizens who are Black Americans, Hispanic Americans, Native Americans, or other specified minorities;

- (ii) any other individual found to be disadvantaged pursuant to section 8(a) of the Small Business Act (15 U.S.C. 637); or
- (iii) any other individual defined as socially, and economically disadvantaged, for purposes relating to other sections of the Small Business Act.

No solicitation may be properly considered without this consideration and no award may be made without it being executed."

2. Representation and Certification 2 entitled "Minority Business Enterprise" is deleted in its entirety and the following substituted therefor:

"2. Subcontracting Representation

- (a) The bidder ( ) contractor ( ) represents that the following conditions prevail which determine whether the firm shall be required to submit a subcontracting plan for small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals:
  - (i) he is ( ) a small business as defined in accordance with Section 3 of the Small Business Act (15 U.S.C. 632). (For additional information see governing regulations of the Small Business Administration (13 CFR Part 121), 41 CFR 1-1.7 and the small business size standard set forth in the solicitation, if any);
  - (ii) subcontracting possibilities are not ( ) offered with respect to this contract;
  - (iii) the contract, including all subcontracts thereunder, will be performed entirely outside of the United States, its territories and possessions, the District of Columbia and the Commonwealth of Puerto Rico and is therefore not covered ( );
  - (iv) the contract, including all prior modifications and/or extensions of which this award is a part and all projected future actions, shall not ( ) exceed \$1,000,000 (if solely for construction of a public facility) or \$500,000 otherwise; and

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- (v) the contract is for services which are personal in nature and is therefore not covered ( ).
- (b) The bidder ( ) contractor ( ) represents that he is ( ) is not ( ) required to submit plans for subcontracting with small and small disadvantaged businesses because he was properly executed one or more of the above representations.
- (c) The bidder ( ) contractor ( ) certifies that he will submit ( ) a Subcontracting Plan in accordance with the terms and conditions specified unless exempted by (a) above, and that he will ( ) will not ( ) require it of all appropriate subcontractors unless they certify that they are exempt.

Failure to execute this representation will be deemed a minor informality and the bidder will be permitted to correct the omission prior to award."

3. The following Representations and Certifications are thereby added:

"10. COST ACCOUNTING STANDARDS CERTIFICATION - NONDEFENSE APPLICABILITY

Any negotiated contract in excess of \$100,000 resulting from this solicitation shall be subject to the requirements of the clauses entitled Cost Accounting Standards - Nondefense Contract (FPR sec. 1-3.1204-2(a)) and Administration of Cost Accounting Standards (FPR sec. 1-3.1204-1(b)) if it is awarded to a contractor's business unit which (i) at the time of award is performing a national defense contract or subcontract of \$10 million or more subject to full (4 CFR 331) CAS coverage that was awarded during the contractor's current cost accounting period, (ii) received national defense CAS covered awards during the preceding cost accounting period of \$10 million or more, or (iii) received national defense CAS covered awards during the preceding cost accounting period of under \$10 million but such awards accounted for 10 percent or more of the business unit's sales for the preceding period, except contracts which are otherwise exempt (see FPR sec. 1-3.1203-2(a) and (c)(4)). Otherwise, an award resulting from this solicitation shall be subject to the requirements of the clauses

entitled Consistency of Cost Accounting Practices - Nondefense Contract (FPR sec. 1-3.1204-2(b)) and Administration of Cost Accounting Standards (FPR sec. 1-3.1204-1(b)) if the award is (i) the first negotiated contract over \$500,000 in the event the award is to a contractor's business unit that is not performing under any CAS covered national defense or nondefense contract or subcontract, or (ii) a negotiated contract over \$100,000 in the event the award is to a contractor's business unit that is performing under any CAS covered national defense or nondefense contract or subcontract, except contracts which are otherwise exempt (see FPR sec. 1-3.1203-2(a) and (c)(4)). This solicitation notice is not applicable to small business concerns.

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Certificate of CAS Applicability

The offeror hereby certifies that:

- a.  It is currently performing a negotiated national defense contract or subcontract that contains a Cost Accounting Standards Clause (4 CFR 331), and it is currently required to accept that clause in any new negotiated national defense contracts it receives that are subject to cost accounting standards.
  
- b.  It is currently performing a negotiated national defense or nondefense contract or subcontract that contains a cost accounting standards clause required by 4 CFR 331 or 332 or by FPR Subpart 1-3.12, but it is not required to accept the 4 CFR 331 clause in new negotiated national defense contracts or subcontracts which it receives that are subject to cost accounting standards.
  
- c.  It is not performing any CAS covered national defense or nondefense contract or subcontract. The offeror further certifies that it will immediately notify the Contracting Officer in writing in the event that it is awarded any negotiated national defense or nondefense contract or subcontract containing any cost accounting standards clause subsequent to the date of this certificate but prior to the date of the award of a contract resulting from this solicitation.

- d.  It is an educational institution receiving contract awards subject to FPR Subpart 1-15.3 (FMC 73-8, OMB Circular A-21).
- e.  It is a State or local government receiving contract awards subject to FPR Subpart 1-15.7 (FMC 74-4, OMB Circular A-87).
- f.  It is a hospital.

Note: Certain firm fixed price negotiated nondefense contracts awarded on the basis of price competition may be determined by the Contracting Officer (at the time of award) to be exempt from cost accounting standards (FPR sec. 1-3.1203-2(c)(4)(iv)).

Additional Certification - CAS Applicable Offerors

- g.  The offeror, subject to cost accounting standards but not certifying under d, e, or f above, further certifies that practices used in estimating costs in pricing this proposal are consistent with the practices disclosed in the Disclosure Statement(s) where they have been submitted pursuant to CASB regulations (4 CFR 351).

DATA REQUIRED - CAS COVERED OFFERORS

The Offeror certifying under a or b above but not under d, e, or f above, is required to furnish the name, address (including agency or department component), and telephone number of the cognizant Contracting Officer administering the offeror's CAS covered contracts. If a above is checked, the offeror will also identify those currently effective cost accounting standards, if any, which upon award of the next negotiated national defense contract or subcontract will become effective upon the offeror.

Name of CO: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone Number: \_\_\_\_\_  
Standards not yet applicable: \_\_\_\_\_

Additional Certification - Consistency of Cost Accounting Practices - Nondefense Contract

- h.  The offeror hereby certifies that an award resulting from this solicitation is (i) the first negotiated contract over \$500,000 in the event the award is to a contractor's business unit that is not performing under any CAS covered national defense or nondefense contract or subcontract or (ii) a negotiated contract over \$100,000 in the event the award is to a contractor's business unit that is performing under any CAS covered national defense or nondefense contract or subcontract and full coverage does not apply.

11. COST ACCOUNTING STANDARDS - EXEMPTION FOR CONTRACTS OF \$500,000 OR LESS

If this proposal is expected to result in the award of a contract of \$500,000 or less, the offeror shall indicate whether the exemption to the Cost Accounting Standards clause under the provisions of 4 CFR 331.30(b)(8) is claimed. Failure to check the box below shall mean that the resultant contract is subject to the Cost Accounting Standards clause or that the offeror elects to comply with such clause.

- The offeror hereby claims an exemption from the Cost Accounting Standards clause under the provisions of 4 CFR 331.30(b)(8) and certifies that he has received notification of final acceptance of all deliverable items on (i) all prime contracts or subcontracts in excess of \$500,000 which contain the Cost Accounting Standards clause, and (ii) any prime contracts or subcontracts of \$500,000 or less awarded after January 1, 1975, which contain the Cost Accounting Standards clause. The offeror further certifies he will immediately notify the Contracting Officer in writing in the event he is awarded any other contract or subcontract containing the Cost Accounting Standards clause subsequent to the date of this certificate but prior to the date of any award resulting from this proposal.

APR 01 1975

12. AFFIRMATIVE ACTION COMPLIANCE PROGRAM

The bidder represents that (a) he \_\_\_\_\_ has developed and has on file, \_\_\_\_\_ has not developed and does not have on file at each establishment affirmative action program as required by the rules and regulations of the Secretary of Labor (41 CFR 60-1) or (b) he \_\_\_\_\_ has not previously had contracts subject to written affirmative action program requirements of the rules and regulations of the Secretary of Labor because (check as applicable).

\_\_\_\_\_ Bidder does not have 50 or more employees

\_\_\_\_\_ Bidder has not had a Government prime contract or subcontract of \$50,000 or more, or

\_\_\_\_\_ Bidder is exempt under 41 CFR 60-1 (list exemption \_\_\_\_\_)."

13. ROYALTIES

The bidder represents that there is ( ) is not ( ) included in the proposal price any amount representing the payment of any royalty by the bidder directly to others in connection with the performance of any contract resulting from this solicitation.

14. CERTIFICATION - WAGE AND PRICE STANDARDS

(Applicable to awards in excess of \$5 million, and awards of indefinite delivery type contracts under which cumulative orders are expected to exceed \$5 million.)

(a) By submission of this bid or offer, the bidder or offeror certifies that he is in compliance with the Wage and Price Standards issued by the Council on Wage and Price Stability (6 CFR Part 705, Appendix, and Part 706).

(b) The clause entitled, "Certification - Wage and Price Standards," set forth elsewhere in this solicitation, shall be incorporated in any resulting contract except where waived by agency head involved.

APR 01 1979

15. WOMAN-OWNED BUSINESS

Concern is \_\_\_\_\_ is not \_\_\_\_\_ a woman-owned business.

A woman-owned business is a business which is, at least, 51 percent owned, controlled, and operated by a woman or women. Controlled is defined as exercising the power to make policy decisions. Operated is defined as actively involved in the day-to-day management.

For the purposes of this definition, businesses which are publicly owned, joint stock associations, and business trusts are exempted. Exempted businesses may voluntarily represent that they are, or are not, women-owned if this information is available.

16. PERCENT OF FOREIGN CONTENT

The offeror/contractor will represent (as and estimate), immediately after the award of a contract, the percent of the foreign content of the item or service being procured expressed as a percent of the contract award price (accuracy within plus or minus 5 percent is acceptable).

17. SUBCONTRACTOR REPRESENTATIONS AND CERTIFICATIONS

The bidder certifies that it will obtain, as a minimum, the following numbered representations and certifications prior to the award of all applicable subcontracts: 1,3,5,6,8,9, 10,11, 12, 13, and 15."

\_\_\_\_\_  
Bidder/Offeror

By \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

Bidders/Offerors must set forth full, accurate and complete information as required by this solicitation (including attachments).

NOTE: The penalty for making false statements in bids/offers is prescribed in 18 U.S.C. 1001.

APR 01 1979



**CONSTRUCTION CONTRACT**  
(See instructions on reverse)

CONTRACT NO  
TB-FB-96-80-JC50005

DATE OF CONTRACT

NAME AND ADDRESS OF CONTRACTOR

CHECK APPROPRIATE BOX

- Individual  
 Partnership  
 Joint Venture  
 Corporation, incorporated in the  
State of \_\_\_\_\_

DEPARTMENT OR AGENCY

Townsend and Bottum, Inc., Field Construction Office,  
Santa Fe Street, P. O. Box 366, Daggett, CA 92327

CONTRACT FOR (*Work to be performed*)

Thermal Storage and Plant Support Subsystem Foundations for the 10 MWe Solar  
Thermal Central Receiver Pilot Plant

PLACE

Solar Ten Megawatt Central Receiver Pilot Plant Site, Daggett, California

CONTRACT PRICE (*Express in words and figures*)

Townsend and Bottum, Inc., and the individual, partnership, joint venture, or corporation named above (hereinafter called the Subcontractor), mutually agree to perform this contract in strict accordance with the following designated specifications, schedules, drawings and conditions:

1. Townsend and Bottum, Inc. Invitation for Bids including Clarification of Terminology and Responsibilities, Deleted Provisions and Substitutions and Additional Provisions.
2. Representations and Certifications (Standard Form 19-B) with Alterations and Additions.
3. Labor Standards Provisions Applicable to Contracts in Excess of \$2,000 (Standard Form 19-A), and Supplement A to Standard Form 19-A, Nov. 1972 Edition.
4. Department of Labor Wage Determination Decision CA 78-5123 dtd. 8/18/78 and Modification Nos. 1,2,3,4,5,6,7,8 and 9 thereto.
5. Instructions to Bidders (Standard Form 22) and Supplement to Standard Form 22 including Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246).
6. General Provisions (Standard Form 23-A and Supplement A to Standard Form 23-A (April 1975 Edition).
7. General Conditions.
8. Thermal Storage and Plant Support Subsystem Foundations - Construction Package No. 7 drawings and specifications.

WORK SHALL BE STARTED

Within ten (10) calendar days after the date of receipt by the Contractor of Notice to Proceed.

WORK SHALL BE COMPLETED

Within one hundred forty (140) calendar days after date of receipt by the Contractor of the Notice to Proceed.

**Alterations.** The following alterations were made in this contract before it was signed by the parties hereto:

In witness whereof, the parties hereto have executed this contract as of the date entered on the first page hereof.

TOWNSEND AND BOTTUM, INC.

SUBCONTRACTOR

By \_\_\_\_\_

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Official title)

By \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

### INSTRUCTIONS

1. The full name and business address of the Contractor must be inserted in the space provided on the face of the form. The Contractor shall sign in the space provided above with his usual signature and typewrite or print his name under the signature.

2. An officer of a corporation, a member of a partnership, or an agent signing for the Contractor shall place his signature and title after the word "By" under the name of the Contractor. A contract executed by an attorney or agent on behalf of the Contractor shall be accompanied by two authenticated copies of his power of attorney or other evidence of his authority to act on behalf of the Contractor.

## LABOR STANDARDS PROVISIONS

APPLICABLE TO CONTRACTS IN EXCESS OF \$2,000

## 1. DAVIS-BACON ACT (40 U.S.C. 276a-276a-7)

(a) All mechanics and laborers, including apprentices and trainees, employed or working directly upon the site of the work shall 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 the Copeland Regulations, 29 CFR Part 3), the full amounts due at time of payment computed at wage rates not less than the aggregate of the basic hourly rates and the rates of payments, contributions, or costs for any fringe benefits contained in the wage determination decision 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 or subcontractor and such laborers and mechanics. A copy of such wage determination decision shall be kept posted by the Contractor at the site of the work in a prominent place where it can be easily seen by the workers.

(b) The Contractor may discharge his obligation under this clause to workers in any classification for which the wage determination decision contains:

(1) Only a basic hourly rate of pay, by making payment at not less than such basic hourly rate, except as otherwise provided in the Copeland Regulations (29 CFR Part 3); or

(2) Both a basic hourly rate of pay and fringe benefits payments, by making payment in cash, by irrevocably making contributions pursuant to a fund, plan, or program for, and/or by assuming an enforceable commitment to bear the cost of, bona fide fringe benefits contemplated by the Davis-Bacon Act, or by any combination thereof. Contributions made, or costs assumed, on other than a weekly basis shall be considered as having been constructively made or assumed during a weekly period to the extent that they apply to such period. Where a fringe benefit is expressed in a wage determination in any manner other than as an hourly rate and the Contractor pays a cash equivalent or provides an alternative fringe benefit, he shall furnish information with his payrolls showing how he determined that the cost incurred to make the cash payment or to provide the alternative fringe benefit is equal to the cost of the wage determination fringe benefit. In any case where the Contractor provides a fringe benefit different from any contained in the wage determination, he shall similarly show how he arrived at the hourly rate shown therefor. In the event of disagreement between or among the interested parties as to an equivalent of any fringe benefit, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination.

(c) The assumption of an enforceable commitment to bear the cost of fringe benefits, or the provision of any fringe benefits not expressly listed in section 1(b)(2) of the Davis-Bacon Act or in the wage determination decision forming a part of the contract, may be considered as payment of wages only with the approval of the Secretary of Labor pursuant to a written request by the Contractor. The Secretary of Labor may require the Contractor to set aside assets, in a separate account, to meet his obligations under any unfunded plan or program.

(d) The Contracting Officer shall require that any class of laborers or mechanics, including apprentices and trainees, which is not listed in the wage determination decision and which is to be employed under the contract shall be classified or reclassified conformably to the wage determination decision, and shall report the action taken to the Secretary of Labor. If the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers or mechanics to be used, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination. Apprentices and trainees may be added under this clause only where they are employed pursuant to an apprenticeship or trainee program meeting the requirements of the Apprentices and Trainees clause below.

(e) In the event it is found by the Contracting Officer that any laborer or mechanic, including apprentices and trainees, employed by the Contractor or any subcontractor directly on the site of the work covered by this contract has been or is being paid at a rate of wages less than the rate of wages required by paragraph (a) of this clause, the Contracting Officer may (1) by written notice to the Government Prime Contractor terminate his right to proceed with the work, or such part of the work as to which there has been a failure to pay said required wages, and (2) prosecute the work to completion by contract or otherwise, whereupon such Contractor and Subcontractor and his sureties shall be liable to the Government for any excess costs occasioned the Government thereby.

(f) Paragraphs (a) through (e) of the clause shall apply to this contract to the extent that it is (1) a prime contract with the Government subject to the Davis-Bacon Act, or (2) a subcontract also subject to the Davis-Bacon Act under such prime contract.

## 2. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT—OVERTIME COMPENSATION (40 U.S.C. 327-333).

*This contract is subject to the Contract Work Hours and Safety Standards Act and to the applicable rules, regulations, and interpretations of the Secretary of Labor.*

(a) The Contractor shall not require or permit any laborer or mechanic, including apprentices, trainees, watchmen, and guards, in any workweek in which he is employed on any work under this contract to work in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek on work subject to the provisions of the Contract Work Hours and Safety Standards Act unless such laborer or mechanic, including apprentices, trainees, watchmen, and guards, receives compensation at a rate not less than 1½ times his basic rate of pay for all such hours worked in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek, whichever is the greater number of overtime hours. The "basic rate of pay," as used in this clause, shall be the amount paid per hour exclusive of the Contractor's contribution or cost for fringe benefits, and any cash payment made in lieu of providing fringe benefits, or the basic hourly rate contained in the wage determination, whichever is greater.

(b) In the event of any violation of the provisions of paragraph (a), the Contractor shall be liable to any affected employee for any amounts due, and to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including an apprentice, trainee, watchman, or guard, employed in violation of the provisions of paragraph (a) in the sum of \$10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of 8 hours or in excess of the standard workweek of 40 hours without payment of the overtime wages required by paragraph (a).

## 3. APPRENTICES AND TRAINEES

(a) Apprentices shall be permitted to work as such only when they are registered, individually, under a bona fide apprenticeship program registered with a State apprenticeship agency which is recognized by the Bureau of Apprenticeship and Training, U.S. Department of Labor; or if no such recognized agency exists in a State, under a program registered with the aforesaid Bureau of Apprenticeship and Training. The allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio permitted to the Contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate who is not a trainee as defined in paragraph (b) of this clause, and who is not registered as above, shall be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The Contractor shall furnish to the Contracting Officer written evidence of the registration of his program and apprentices, as well as of the appropriate ratios allowed and the wage rates required to be paid thereunder for the area of construction, prior to using any apprentices in the contract work. The term "apprentice" means (1) a person employed and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or (2) a person in his 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 Council (where appropriate) to be eligible for probationary employment as an apprentice.

(b) Trainees shall be permitted to work as such when they are bona fide trainees employed pursuant to a program approved by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training. The term "trainee" means a person receiving on-the-job training in a construction occupation under a program which is approved (but not necessarily sponsored) by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training, and which is reviewed from time to time by the Manpower Administration to insure that the training meets adequate standards.

(c) In connection with contracts in excess of \$10,000, the Contractor agrees as follows:

(1) The Contractor shall make a diligent effort to hire for performance of work under this contract a number of apprentices or trainees, or both, in each occupation, which bears to the average number of the journeymen in that occupation to be employed in the performance of the contract the applicable ratio as set forth in paragraph (c)(7) of this clause.

(2) The Contractor shall insure that 25 percent of such apprentices or trainees in each occupation are in their first year of training, where feasible. Feasibility here involves a consideration of (i) the availability of training opportunities for first year apprentices, (ii) the hazardous nature of the work for beginning workers, and (iii) excessive unemployment of apprentices in their second and subsequent years of training.

(3) The Contractor shall, during the performance of the contract, to the greatest extent possible, employ the number of apprentices or trainees necessary to meet currently the requirements of paragraph (c)(1) and (c)(2) of this clause.

(4) The Contractor shall maintain records of employment on this contract by trade of the number of apprentices and trainees, apprentices and trainees in first year of training, and of journeymen, and wages paid and hours of work of such apprentices, trainees, and journeymen. In addition, the Contractor who claims compliance based on the criterion set forth in paragraph (c)(6)(ii) of this clause shall maintain such records of employment on all his construction work in the same labor market area, both public and private, during the performance of this contract. In each of the above cases the Contractor shall make such records available for inspection upon request of the Department of Labor or the Contracting Officer.

(5) The Contractor shall supply one copy of each of the written notices required in accordance with paragraph (c)(6)(iii) of this clause at the request of the Contracting Officer. The Contractor also agrees to supply at 3-month intervals during the performance of the contract and after completion of contract performance a statement describing steps taken toward making a diligent effort and containing a breakdown by craft, of hours worked and wages paid for first year apprentices and trainees, other apprentices and trainees, and journeymen. One copy of the statement will be sent to the Contracting Officer and one copy to the Secretary of Labor.

(6) The Contractor will be deemed to have made a "diligent effort" as required by paragraph (c)(1) if during the performance of this contract, he accomplishes at least one of the following three objectives: (i) The Contractor employs under this contract a number of apprentices and trainees by craft, at least equal to the ratios established in accordance with paragraph (c)(7) of this clause, or (ii) the Contractor employs, on all his construction work, both public and private, in the same labor

SUPPLEMENT A TO STANDARD FORM 19-A, NOVEMBER 1972 EDITION

L2-92

Clause 3 "Apprentices and Trainees" and Clause 4 "Payrolls and Basic Records" are deleted in their entirety and the following clauses are substituted therefor:

"(3) APPRENTICES AND TRAINEES

- (a) Apprentices shall be permitted to work at less than the predetermined rate for the work they performed (1) when they are employed and individually registered in a bona fide apprenticeship program registered with the U. S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or (2) if a person is employed in his 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 in any craft classification shall not be greater than the ratio permitted to the Contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not a trainee as defined in paragraph (b) of this clause and who is not registered, or otherwise employed as stated above, shall be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The Contractor shall furnish to the Contracting Officer or a representative of the Wage-Hour Division of the U. S. Department of Labor written evidence of the registration of his program and apprentices as well as the appropriate ratios allowed and wage rates (expressed in percentages of the journeyman hourly wages) for the area of construction, prior to using any apprentices on the contract work. The wage rate paid apprentices shall not be less than the appropriate percentage of the journeyman's rate contained in the applicable wage determination.
- (b) Except as provided in 29 CFR 5.15 trainees shall 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

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certification, by the U. S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training. The term "trainee" means a person registered and receiving on-the-job training in a construction occupation under a program which has been approved in advance by the U. S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training, as meeting its standards for on-the-job training programs and which has been so certified by the Bureau. The ratio of trainees to journeymen shall not be greater than the ratio permitted under the plan approved by the Bureau of Apprenticeship and Training. Every trainee must be paid at not less than the rate specified in the approved program for his level of progress. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Bureau of Apprenticeship and Training shall be paid not less than the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The Contractor shall furnish the Contracting Officer or a representative of the Wage-Hour Division of the U. S. Department of Labor written evidence of the certification of his program, the registration of the trainees, and the ratios and wage rates prescribed in that program. In the event the Bureau of Apprenticeship and Training withdraws approval of a training program, the Contractor shall no longer utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (c) 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.
- (d) If at any time the Bureau of Apprenticeship and Training determines, after opportunity for a hearing, that the standards of a training program have not been complied with, or that such a program fails to provide adequate training for participants, the Contractor shall not utilize trainees at less than the predetermined rate for the classification of work actually performed until an acceptable program is approved. If the Contractor brings an appeal pursuant to 29 CFR 5.17 within 30 days of his receipt of a certified letter withdrawing the Bureau

of Apprenticeship and Training's approval, the effect of the withdrawal of approval of the program will be delayed until a decision is rendered on the appeal pursuant to 29 CFR 5.17.

(4) PAYROLLS AND BASIC RECORDS

- (a) The Contractor shall maintain payrolls and basic records relating thereto during the course of the work and shall preserve them for a period of three years thereafter for all laborers and mechanics, including apprentices, trainees, watchmen, and guards working at the site of the work. Such records shall contain the name and address of each such employee, his correct classification, rate of pay (including rates of contributing for or costs assumed to provide, fringe benefits), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Contractor has obtained approval from the Secretary of Labor as provided in paragraph (c) of the clause entitled "Davis-Bacon Act," he shall maintain records which show the commitment, its approval, written communication of the plan or program to the laborers or mechanics affected, and the costs anticipated or incurred under the plan or program.
- (b) The Contractor shall submit weekly a copy of all payrolls to the Contracting Officer. The Government Prime Contractor shall be responsible for the submission of copies of payrolls for all subcontractors. The copy shall be accompanied by a statement signed by the Contractor indicating that the payrolls are correct and complete, that the wage rates contained therein are not less than those determined by the Secretary of Labor, and that the classifications set forth for each laborer or mechanic, including apprentices and trainees, conform with the work he performed. Submission of the "Weekly Statement of Compliance" required under the contract and the Copeland Regulations of the Secretary of Labor (29 CFR Part 3) shall satisfy the requirement for submission of the above statement. The Contractor shall submit also a copy of any approval by the Secretary of Labor with respect to fringe benefits which is required by paragraph (c) of the clause entitled "Davis-Bacon Act." Contractors employing apprentices or trainees under approved programs shall

include a notation of the first weekly certified payrolls submitted to the contracting agencies that their employment is pursuant to an approved program and shall identify the program.

- (c) The Contractor shall make the records required under this clause available for inspection by authorized representatives of the Contracting Officer and the Department of Labor, and shall permit such representatives to interview employees during working hours on the job."

[4510-27]

## DEPARTMENT OF LABOR

## Employment Standards Administration

MINIMUM WAGES FOR FEDERAL AND  
FEDERALLY ASSISTED CONSTRUCTION

## General Wage Determination Decisions

General Wage Determination Decisions of the Secretary of Labor specify, in accordance with applicable law and on the basis of information available to the Department of Labor from its study of local wage conditions and from other sources, the basic hourly wage rates and fringe benefit payments which are determined to be prevailing for the described classes of laborers and mechanics employed in construction activity of the character and in the localities specified therein.

The determinations in these decisions of such prevailing rates and fringe benefits have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates, (37 FR 21138) and of Secretary of Labor's Orders 12-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

Good cause is hereby found for not utilizing notice and public procedure thereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in effective date as prescribed in that section, because the necessity to issue construction industry wage determination frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General Wage Determination Decisions are effective from their date of

publication in the FEDERAL REGISTER without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision together with any modifications issued subsequent to its publication date shall be made a part of every contract for performance of the described work within the geographic area indicated as requested by an applicable Federal prevailing wage law and 29 CFR, Part 5. The wage rates contained therein shall be the minimum paid under such contract by contractors and subcontractors on the work.

## MODIFICATIONS AND SUPERSEDEAS DECISIONS TO GENERAL WAGE DETERMINATION DECISIONS

Modifications and Supersedeas Decisions to General Wage Determination Decisions are based upon information obtained concerning changes in prevailing hourly wage rates and fringe benefit payments since the decisions were issued.

The determinations of prevailing rates and fringe benefits made in the Modifications and Supersedeas Decisions have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 13-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in foregoing General Wage Determination Decisions, as hereby modified, and/or superseded shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged in contract work of the character and in the localities described therein.

Modifications and Supersedeas Decisions are effective from their date of publication in the FEDERAL REGISTER without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Any person, organization, or governmental agency having an interest in the wages determined as prevailing is encouraged to submit wage rate information for consideration by the Department. Further information and self-explanatory forms for the purpose of submitting this data may be obtained by writing to the U.S. Department of Labor, Employment Standards Administration, Office of Special Wage Standards, Division of Wage Determinations, Washington, D.C. 20210. The cause for not utilizing the rule-making procedures prescribed in 5 U.S.C. 553 has been set forth in the original General Wage Determination Decision.

## MODIFICATIONS TO GENERAL WAGE DETERMINATION DECISIONS

The numbers of the decisions being modified and their dates of publication in the FEDERAL REGISTER are listed with each State.

|  |       |                |
|--|-------|----------------|
| Alabama:                                   |       |                |
| AL78-1028                                  | _____ | Mar. 24, 1978. |
| Connecticut:                               |       |                |
| CT78-3055                                  | _____ | July 28, 1978. |
| Florida:                                   |       |                |
| FL78-1062                                  | _____ | July 14, 1978. |
| Louisiana:                                 |       |                |
| LA78-4072                                  | _____ | Do.            |
| LA-4077                                    | _____ | Aug. 11, 1978. |
| Minnesota:                                 |       |                |
| MN77-2043; MN77-2044; MN77-2045; MN77-2046 | _____ | May 6, 1977.   |
| MN78-2009                                  | _____ | Mar. 10, 1978. |
| MN78-2082                                  | _____ | July 14, 1978. |
| New Jersey:                                |       |                |
| NJ78-3009                                  | _____ | Apr. 21, 1978. |
| Texas:                                     |       |                |
| TX78-4033; TX78-4037; TX78-4043            | _____ | Apr. 14, 1978. |

## SUPERSEDEAS DECISIONS TO GENERAL WAGE DETERMINATION DECISIONS

The numbers of the decisions being modified and their dates of publication in the FEDERAL REGISTER are listed with each State. Supersedeas decision numbers are in parentheses following the numbers of the decisions being superseded.

|                       |       |                |
|-----------------------|-------|----------------|
| Alabama:              |       |                |
| AL77-1083 (AL78-1067) | _____ | June 24, 1977. |
| California:           |       |                |
| CA78-5004 (CA78-5123) | _____ | Jan. 27, 1978. |
| Florida:              |       |                |
| FL77-1049 (FL78-1088) | _____ | Apr. 29, 1977. |
| Pennsylvania:         |       |                |
| PA77-3058 (PA78-3048) | _____ | May 13, 1978.  |
| Texas:                |       |                |
| TX78-4075 (TX78-4081) | _____ | Aug. 4, 1978.  |

## CANCELLATION OF GENERAL WAGE DETERMINATION DECISIONS

None.

Signed at Washington, D.C., this 11th day of August 1978.

XAVIER M. VELA,  
Administrator,  
Wage and Hour Division.



STATE: California

COUNTIES: Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura

DECISION NUMBER: CA78-5123  
 Supercedes Decision No. CA78-5004 dated January 27, 1978, in 43 FR 3044  
 DESCRIPTION OF WORK: Building Construction (does not include single family homes and garden type apartments up to and including 4 stories, heavy and highway construction and dredging).

AL78-1067 - (Cont'd)

POWER EQUIPMENT OPERATORS:

|         | Basic Hourly Rates | Filage Benefits Payments |          |          | Education and/or Appr. Tr. |
|---------|--------------------|--------------------------|----------|----------|----------------------------|
|         |                    | H & W                    | Pensions | Vacation |                            |
| CLASS A | 9.11               | .40                      | .30      |          | .10                        |
| CLASS B | 8.57               | .40                      | .30      |          | .10                        |
| CLASS C | 8.22               | .40                      | .30      |          | .10                        |
| CLASS D | 7.61               | .40                      | .30      |          | .10                        |

CLASS A: Asphalt plant, asphalt spreader, backhoe, boat operator, (inboard), boom tractor, bulldozer, cableways, cherry picker, compressor-2, or more within 200 ft. radius, concrete plants-stationary, mixer operator, concrete pump, conveyor-2 or more up to 4, core drillers-crane-derrick-dragline 1-deck hoist on construction barges, crane-operator, farm tractor with attachments (30 HP or more-which are an integral part of tractor), fork lift, front end loader, gradall, headhouse operator, heavy duty, mechanic, hoist-2 drums or more, ice plant in connection with concrete, mixers-5 bugs and rock crushers, rollers-asphalt, scraper, scrapers in tandem operator to receive 25¢ per hour for each additional scraper), shovels, trenching machines and all similar equipment.

CLASS B: Crawler tractor, hoist-1 drum, pumps-2 or more 4 inch 5 over, under 5 within 200 ft. radius, rollers (other than asphalt), winch truck, well points and other equipment used for dewatering.

CLASS C: Air compressor, blade graders-pull type, farm tractor with attachments finishing machine-screed mounted self-propelled, mixers-under 5 bags.

CLASS D: Outboard boats, air compressor-125 and under, conveyor-one (1) tended by operator, pumps-under 4 inch-3 or under, welding machines-3 or under, oiler in board boats, deck hand.

NOTICES

|  | Basic Hourly Rates | Filage Benefits Payments |          |          | Education and/or Appr. Tr. |
|--|--------------------|--------------------------|----------|----------|----------------------------|
|  |                    | H & W                    | Pensions | Vacation |                            |
| ASBESTOS WORKERS   | \$ 13.45           | \$ 1.05                  | \$ 1.27  |          | .06                        |
| BOILERMAKERS   | 13.625             | 1.075                    | 1.00     | .75      | .02                        |
| BRICKLAYERS; Stonemasons; Imperial County  | 12.09              | 1.13                     | 1.34     |          | .12                        |
| Inyo, Kern and Mono Counties   | 12.65              | 1.00                     | 1.45     |          | .07                        |
| Los Angeles County (Cities of Santa Monica, Malibu, Venice, Pasadena, South Pasadena, Arcadia, Monrovia and South of Rosecrans Blvd., including Long Beach), Orange County | 11.20              | 1.15                     | 1.45     |          | .30                        |
| Cities of Santa Monica, Malibu, Venice, Pasadena, South Pasadena, Arcadia, Monrovia and South of Rosecrans Blvd., including Long Beach)                                    | 11.20              | 1.15                     | 1.45     |          | .30                        |
| Riverside and San Bernardino Counties  | 12.25              | 1.30                     | 1.65     |          | .05                        |
| Santa Barbara and San Luis Obispo Counties   | 10.750             | 1.20                     | 1.85     |          | .07                        |
| Ventura County   | 12.78              | 1.10                     | 1.90     |          | .05                        |
| BRICK TENDERS  | 8.85               | 1.15                     | 2.45     | .80      |                            |
| CARPENTERS:  |                    |                          |          |          |                            |
| Carpenters   | 10.05              | 1.49                     | 1.95     | 1.00     | .06                        |
| Saw Filers   | 10.13              | 1.49                     | 1.95     | 1.00     | .06                        |
| Table Power Saw Operators  | 10.15              | 1.49                     | 1.95     | 1.00     | .06                        |
| Shinglers; Piledriversmen; Bridge or dock Carpenters;  |                    |                          |          |          |                            |
| Derrick Barge-men; Rock Blinger  | 10.16              | 1.49                     | 1.95     | 1.00     | .06                        |
| Hardwood Floor Layers  | 10.25              | 1.49                     | 1.95     | 1.00     | .06                        |
| Head Rock Blinger  | 10.28              | 1.49                     | 1.95     | 1.00     | .06                        |
| Pneumatic Nailer   | 10.30              | 1.49                     | 1.95     | 1.00     | .06                        |
| Millwrights  | 10.55              | 1.49                     | 1.95     | 1.00     | .06                        |

DECISION NO. CA78-5123

| Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or Appr. Fr. |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation |                            |
| \$ 12.06           | .85                      | 38+1.65  |          | .04                        |
| 13.36              | .85                      | 38+1.65  |          | .04                        |
| 13.70              | 1.11                     | 38+2.00  |          | .04                        |
| 13.00              | 1.11                     | 38+2.00  |          | .04                        |
| 13.97              | 1.11                     | 38+2.00  |          | .04                        |
| 14.27              | 1.11                     | 38+2.00  |          | .04                        |
| 13.41              | 1.20                     | 38+1.50  |          | .03                        |
| 14.75              | 1.20                     | 38+1.50  |          | .03                        |
| 15.00              | 1.10                     | 38+1.50  |          | .03                        |
| 16.00              | 1.10                     | 38+1.50  |          | .03                        |
| 13.25              | 1.10                     | 38+1.50  |          | .03                        |
| 14.25              | 1.10                     | 38+1.50  |          | .03                        |
| 13.96              | 1.00                     | 38+1.30  |          | .02                        |
| 15.36              | 1.00                     | 38+1.30  |          | .02                        |
| 13.41              | .745                     | .56      |          | .025                       |
| 701JR              | .745                     | .56      |          | .025                       |
| 500JR              |                          |          |          |                            |
| 14.62              | .745                     | .56      |          | .025                       |

ELECTRICIANS: (Cont'd)

Riverside County Electricians  
 Cable Splicers  
 Inyo, Mono and San Bernardino Counties  
 Cable Splicers  
 Tunnel Electricians  
 Cable Splicers  
 San Luis Obispo County Electricians  
 Cable Splicers  
 Santa Barbara County (Vandenberg AFB) Electricians  
 Cable Splicers  
 Remainder of County Electricians  
 Cable Splicers  
 Ventura County Electricians  
 Cable Splicers  
 ELEVATOR CONSTRUCTORS:  
 Imperial, Inyo, Kern (South of Tehachapt Range), Los Angeles, Mono, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties  
 Elevator Constructors  
 Elevator Constructors' Helpers  
 Elevator Constructors' Helpers (Prob.)  
 Kern County (North of Tehachapt Range)  
 Elevator Constructors

DECISION NO. CA78-5123

| Basic Hourly Rates | Fringe Benefits Payments |          |          | Educator's and/or Appr. Fr. |
|--------------------|--------------------------|----------|----------|-----------------------------|
|                    | H & W                    | Pensions | Vacation |                             |
| \$ 9.41            | \$ 1.10                  | \$ 1.75  | \$ 1.00  | .06                         |
| 9.66               | 1.10                     | 1.75     | 1.00     | .06                         |
| 11.40              | 1.49                     | 1.95     | .90      | .07                         |
| 14.30              | .75                      | 38+1.45  |          |                             |
| 14.58              | .75                      | 38+1.45  |          |                             |
| 15.75              | .90                      | 38+1.60  |          | .15                         |
| 17.33              | .90                      | 38+1.60  |          | .15                         |
| 13.25              | .90                      | 38+1.60  |          | .15                         |
| 14.58              | .90                      | 38+1.60  |          | .15                         |
| 13.12              | 1.15                     | 38+1.95  |          | .12                         |
| 13.42              | 1.15                     | 38+1.95  |          | .12                         |
| 13.12              | 1.15                     | 38+1.95  |          | .12                         |
| 9.64               | 1.15                     | 38+1.95  |          | .12                         |
| 9.18               | 1.15                     | 38+1.95  |          | .12                         |
| 13.52              | 1.05                     | 18+1.70  |          | .02                         |
| 13.82              | 1.05                     | 18+1.70  |          | .02                         |
| 12.67              | .75                      | .30      |          |                             |
| 10.74              | .75                      | .30      |          |                             |
| 14.04              | .81                      | 38+1.45  |          | .02                         |
| 14.69              | .81                      | 38+1.45  |          | .02                         |

CEMENT MASONS:  
 Cement Masons  
 Cement Floating and Troweling Machine  
 DRYWALL INSTALLERS  
 ELECTRICIANS:  
 Imperial County Electricians  
 Cable Splicers  
 Kern (China Lake Naval Ordnance Test Station, Edwards AFB) Electricians; Technicians  
 Cable Splicers  
 Kern County (Remainder of Co.) Electricians; Technicians  
 Cable Splicers  
 Los Angeles County Electricians  
 Cable Splicers  
 Traffic Signal and Street Lightings:  
 Electricians  
 Utility Technician No. 1  
 Utility Technician No. 2  
 Tunnel Electricians  
 Cable Splicers  
 Sound Technicians  
 Sound Technicians (on new building construction)  
 Sound Technicians (on modification of existing buildings)  
 Orange County Electricians  
 Cable Splicers

|   | Basic Hourly Rate | Fringe Benefits Payments |          |          | Education and/or Appr. Tr. |
|---|-------------------|--------------------------|----------|----------|----------------------------|
|   |                   | H & W                    | Pensions | Vacation |                            |
| <b>ELEVATOR CONSTRUCTORS: (Cont'd)</b>  |                   |                          |          |          |                            |
| Elevator Constructors' Helpers  | 70BJR             | .745                     | .56      |          | .025                       |
| Elevator Constructors' Helpers (Prob.)  | 50BJR             |                          |          |          |                            |
| <b>GLAZIERS:</b>  |                   |                          |          |          |                            |
| Imperial County   | 10.50             | .67                      | .90      |          |                            |
| Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, San Luis Obispo and Ventura Counties           | 11.19             | .67                      | 1.45     |          | .06                        |
| <b>IRONWORKERS:</b>   |                   |                          |          |          |                            |
| Fence Erectors  | 11.11             | 1.29                     | 2.47     | 1.45     | .07                        |
| Reinforcing   | 12.00             | 1.29                     | 2.47     | 1.65     | .07                        |
| Ornamental; Structural  | 12.00             | 1.29                     | 2.47     | 1.65     | .07                        |
| <b>IRRIGATION &amp; LAWN SPRINKLERS:</b>  |                   |                          |          |          |                            |
| Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties | 10.45             | 1.01                     | 1.60     | 1.30     | .10                        |
| <b>LATHEERS:</b>  |                   |                          |          |          |                            |
| Inyo, Kern and Mono Counties  | 9.13              | .60                      | 1.30     | .70      | .05                        |
| Los Angeles County (except City of Lancaster)   | 12.50             | .70                      | .90      |          | .01                        |
| Ventura County  | 11.98             | 1.05                     | 1.13     | 1.50     | .02                        |
| San Luis Obispo County  | 7.72              | .87                      | 3.70     |          |                            |
| Santa Barbara County  | 11.67             | .82                      | 1.25     | 1.50     |                            |
| Orange County   | 12.50             | .85                      | 1.00     | .50      | .03                        |
| <b>LINE CONSTRUCTION:</b>   |                   |                          |          |          |                            |
| Imperial County   |                   |                          |          |          |                            |
| Groundmen   | 11.44             | .75                      | 30+1.45  |          |                            |
| Linemen   | 14.30             | .75                      | 30+1.45  |          |                            |
| Cable Splicers  | 14.50             | .75                      | 30+1.45  |          |                            |
| Kern (China Lake Naval Ordnance Test Station and Edwards AFB)   |                   |                          |          |          |                            |
| Groundmen   | 12.44             | .90                      | 30+1.60  |          | .15                        |
| Linemen   | 15.75             | .90                      | 30+1.60  |          | .15                        |
| Cable Splicers  | 17.33             | .90                      | 30+1.60  |          | .15                        |
| Kern County (Remainder of County)   |                   |                          |          |          |                            |
| Groundmen   | 9.94              | .90                      | 30+1.60  |          | .15                        |
| Linemen   | 13.25             | .90                      | 30+1.60  |          | .15                        |
| Cable Splicers  | 14.50             | .90                      | 30+1.60  |          | .15                        |

|  | Basic Hourly Rate | Fringe Benefits Payments |          |          | Education and/or Appr. Tr. |
|--|-------------------|--------------------------|----------|----------|----------------------------|
|  |                   | H & W                    | Pensions | Vacation |                            |
| <b>LINE CONSTRUCTION: (Cont'd)</b>     |                   |                          |          |          |                            |
| Orange County                          | 11.43             | .81                      | 30+1.45  |          | .02                        |
| Groundmen, 1st year                    | 12.12             | .81                      | 30+1.45  |          | .02                        |
| Groundmen, after 1st year              |                   |                          |          |          |                            |
| Linemen; Heavy Equipment               | 14.06             | .81                      | 30+1.45  |          | .02                        |
| Operators                              | 14.69             | .81                      | 30+1.45  |          | .02                        |
| Cable Splicers                         |                   |                          |          |          |                            |
| Los Angeles County                     |                   |                          |          |          |                            |
| Groundmen                              | 9.86              | 1.25                     | 30+1.95  |          |                            |
| Linemen                                | 13.14             | 1.25                     | 30+1.95  |          |                            |
| Cable Splicers                         | 13.44             | 1.25                     | 30+1.95  |          |                            |
| Inyo, Mono and San Bernardino Counties |                   |                          |          |          |                            |
| Groundmen                              | 9.41              | 1.11                     | 30+2.00  |          | .04                        |
| Linemen                                | 12.72             | 1.11                     | 30+2.00  |          | .04                        |
| Cable Splicers                         | 13.00             | 1.11                     | 30+2.00  |          | .04                        |
| Riverside County                       |                   |                          |          |          |                            |
| Groundmen                              | 9.65              | .85                      | 30+1.65  |          | .04                        |
| Linemen; Line Equipment                |                   |                          |          |          |                            |
| Operators                              | 13.08             | .85                      | 30+1.65  |          | .04                        |
| Cable Splicers                         | 13.38             | .85                      | 30+1.65  |          | .04                        |
| San Luis Obispo County                 |                   |                          |          |          |                            |
| Groundmen                              | 9.66              | 1.00                     | 30+1.35  |          | .03                        |
| Linemen; Line Equipment                |                   |                          |          |          |                            |
| Operators                              | 12.26             | 1.00                     | 30+1.35  |          | .03                        |
| Cable Splicers                         | 13.48             | 1.00                     | 30+1.35  |          | .03                        |
| Ventura County                         |                   |                          |          |          |                            |
| Groundmen                              | 12.93             | 1.00                     | 30+1.05  |          | .02                        |
| Linemen                                | 14.21             | 1.00                     | 30+1.05  |          | .02                        |
| Cable Splicers                         | 15.63             | 1.00                     | 30+1.05  |          | .02                        |
| Santa Barbara County (Vandenberg AFB)  |                   |                          |          |          |                            |
| Groundmen                              | 11.69             | 1.10                     | 30+1.50  |          | .03                        |
| Linemen                                | 15.00             | 1.10                     | 30+1.50  |          | .03                        |
| Cable Splicers                         | 16.00             | 1.10                     | 30+1.50  |          | .03                        |
| Remainder of County                    |                   |                          |          |          |                            |
| Groundmen                              | 9.64              | 1.10                     | 30+1.50  |          | .03                        |
| Linemen                                | 13.25             | 1.10                     | 30+1.50  |          | .03                        |
| Cable Splicers                         | 14.25             | 1.10                     | 30+1.50  |          | .03                        |

| Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or Appr. Fr. |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation |                            |
| \$ 12.55           | .66                      | .80      | .60      | .02                        |
| 13.30              | .66                      | .80      | .60      | .02                        |
| 9.87               | .45                      | .61      |          | .03                        |
| 10.12              | .45                      | .61      |          | .03                        |
| 10.37              | .45                      | .61      |          | .03                        |
| 11.37              | .45                      | .61      |          | .03                        |
| 11.99              | 1.07                     | 1.30     |          | .03                        |
| 12.12              | 1.07                     | 1.30     |          | .03                        |
| 12.37              | 1.07                     | 1.30     |          | .03                        |
| 11.52              | 1.07                     | 1.30     |          | .03                        |
| 12.87              | 1.07                     | 1.30     |          | .03                        |
| 10.47              | .55                      | .40      |          |                            |
| 9.47               | .55                      | .40      |          |                            |
| 9.37               | .55                      | .40      |          |                            |
| 7.97               | .55                      | .40      |          |                            |
| 9.37               | .55                      | .40      |          |                            |
| 8.87               | .55                      | .40      |          |                            |
| 7.97               | .55                      | .40      |          |                            |
| 6.98               | .55                      | .40      |          |                            |
| 6.47               | .55                      | .40      |          |                            |

PAINTERS: (Cont'd)  
 Spray sandblaster swing stage (13 stories or less); Paste Machines; Special coating Spray  
 Steeplejack  
 Kern County (Remainder of County)  
 Brush  
 Brush or roller, swing stage; Paperhangers; Taping joint  
 anet rock  
 Spray; Sandblasters  
 Steeplejack  
 San Luis Obispo, Santa Barbara, and Ventura Counties  
 Brush; Pot Tender  
 Paperhangers; Paste Machine Operators; Iron and steel  
 Spray; Tapers; Sandblasters  
 Sign Painter  
 Steeplejack  
 Parking Lot Striping Work and/or Highway Markers;  
 Inyo and Mono Counties  
 Stripper Helper  
 Traffic Delineating Device Applicator; Wheel Stop Installer; Traffic Sur-face; Sandblaster  
 Helper (traffic delineating device applicator, wheel stop installer, traffic surface sandblaster)  
 Slurry Seal Operator  
 Mixer Operator  
 Squeegee Man  
 Applicator Operator  
 Shuttleman  
 Top Man

| Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or Appr. Fr. |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation |                            |
| \$ 11.66           | \$ 1.50                  | \$ 1.10  | \$ 1.03  | .08                        |
| 12.34              | .81                      | 1.17     |          | .08                        |
| 9.44               | .81                      | 1.17     |          | .08                        |
| 11.56              | 1.23                     | 1.28     | .75      | .07                        |
| 12.58              | 1.23                     | 1.28     | .75      | .07                        |
| 11.83              | 1.23                     | 1.28     | .75      | .07                        |
| 13.23              | 1.23                     | 1.28     | .75      | .07                        |
| 12.05              | .66                      | .80      | .60      | .02                        |
| 12.17              | .66                      | .80      | .60      | .02                        |
| 12.59              | .66                      | .80      | .60      | .01                        |
| 13.38              | .66                      | .80      | .60      | .02                        |
| 12.42              | .66                      | .80      | .60      | .02                        |
| 12.45              | .66                      | .80      | .60      | .02                        |

MARBLE SETTERS:  
 Inyo and Mono Counties  
 Imperial County  
 MARBLE, TERRAZZO & TILE SETTERS' HELPERS;  
 Imperial County  
 PAINTERS:  
 Imperial, Orange, Riverside, Los Angeles (Pomona Area), San Bernardino (excluding Western portion)  
 Brush; Paint Burners  
 Paperhangers; Iron, steel and bridge (swing stage); Sheet rock taper  
 Brush (swing stage); Spray  
 Steeplejack  
 Inyo, Kern (Lancaster, Mojave, Palmdale, China Lake Naval Ordnance Test Station and Edwards AFB), Los Angeles (except Pomona Area), Mono San Bernardino (west of a line north of Triunfo including China Lake Area, Johannesburg, Boron, South including the Wrightwood Area)  
 Brush  
 Structural steel and bridges; Painter Burner  
 Tapers  
 Brush Swing Stage (13 stories or less); Paperhangers; Sandblasters; Spray  
 Brush swing stage (over 13 stories)  
 Structural steel and bridge, swing

| Basic Hourly Rates | Fringe Benefits Payments |          |          |  | Education and/or Appr. Tr. |
|--------------------|--------------------------|----------|----------|--|----------------------------|
|                    | H & W                    | Pensions | Vacation |  |                            |
| 9.37               | .55                      | .40      | b        |  |                            |
| 8.98               | .55                      | .40      | b        |  |                            |
| 7.00               | .55                      | .40      | b        |  |                            |
| 8.98               | .55                      | .40      | b        |  |                            |
| 7.98               | .55                      | .40      | b        |  |                            |
| 7.00               | .55                      | .40      | b        |  |                            |
| 6.90               | .55                      | .40      | b        |  |                            |
| 6.08               | .55                      | .40      | b        |  |                            |
| 11.03              |                          | 1.85     |          |  | .13                        |
| 12.335             | .93                      |          |          |  | .01                        |
| 15.95              |                          |          |          |  | .01                        |
| 12.00              | .70                      | 1.05     |          |  | .02                        |
| 8.69               | .60                      | 3.15     |          |  |                            |
| 13.16              |                          |          |          |  |                            |
| 11.62              | 1.15                     | 2.45     |          |  |                            |
| 12.075             | 1.05                     | 2.45     | .60      |  |                            |
| 9.45               | 1.05                     | 2.45     | .60      |  |                            |
| 10.975             | 1.15                     | 2.45     | 1.10     |  |                            |
| 9.43               | 1.15                     | 2.45     | 1.00     |  |                            |
| 10.78              | 1.15                     | 2.45     | .60      |  |                            |
| 10.80              | 1.15                     | 2.45     | .60      |  |                            |
| 11.23              | 1.05                     | 2.45     | 1.10     |  |                            |

PAINTERS: (Cont'd)  
 Remaining Counties:  
 Traffic Delineating Device  
 Applicator  
 Striper; Wheel Stop Installers;  
 Surface Sandblaster  
 Helper (striper, wheel stop  
 installer, traffic surface  
 sandblaster)  
 Slurry Seal Operations;  
 Mixer Operator  
 Squeegee Man  
 Applicator Operator  
 Shuttleman  
 Top Man  
 PLASTERERS:  
 Imperial County  
 Los Angeles and Orange Cos.  
 Riverside and San Bernardino  
 Counties  
 San Luis Obispo County  
 Santa Barbara County  
 Ventura County  
 PLASTERERS TENDERS:  
 Imperial, Inyo, Mono,  
 Riverside and San Bernardino  
 Counties  
 Kern County (China Lake Naval  
 Ordnance Test Station,  
 Edwards AFB)  
 Kern County (Remainder of Co.)  
 Los Angeles and Orange Cos.  
 San Luis Obispo County  
 Santa Barbara County (except  
 Santa Maria)  
 Santa Barbara Co. (Santa Maria)  
 Ventura County

NOTICES

| Basic Hourly Rates | Fringe Benefits Payments |          |          |  | Education and/or Appr. Tr. |
|--------------------|--------------------------|----------|----------|--|----------------------------|
|                    | H & W                    | Pensions | Vacation |  |                            |
| \$ 13.12           | 1.00                     | 1.60     | 1.30     |  | 3/40                       |
| 10.08              | .95                      | 1.85     | 1.45     |  | .17                        |
| 13.30              | .95                      | 1.85     | 1.45     |  | .17                        |
| 10.70              | .96                      | .85      | 1.00     |  | .05                        |
| 12.53              | 1.85                     | 1.00     | 1.52     |  | .20                        |
| 10.79              | .80                      | 1.05     | 1.00     |  |                            |
| 10.70              | .60                      | .60      |          |  |                            |
| 10.45              | .80                      | .75      | 1.00     |  |                            |
| 12.32              | .92                      | 1.10     |          |  | .065                       |
| 10.43              | .535                     | .34      |          |  | .0025                      |
| 13.96              | 1.04                     | 2.24     |          |  | .01                        |
| 13.67              | 1.04                     | 1.80     |          |  | .02                        |
| 11.17              | 1.04                     | 1.80     |          |  | .02                        |
| 13.65              | 1.04                     | 2.35     |          |  | .10                        |
| 11.62              | 1.04                     | 2.13     |          |  | .09                        |
| 10.10              | 1.04                     | 1.80     |          |  | .08                        |
| 12.73              | 1.04                     | 2.02     |          |  |                            |

PLUMBERS; Steamfitters;  
 Imperial, Los Angeles, Orange,  
 Riverside, San Bernardino,  
 San Luis Obispo, Santa Barbara  
 and Ventura Counties  
 Inyo, Kern (except east of  
 Los Angeles (Aqueduct) and  
 Mono Counties  
 Kern County (East of Los  
 Angeles Aqueduct)  
 REFRIGERATION & AIR CONDITIONING  
 Riverside and San Bernardino  
 Counties  
 Los Angeles and Orange Counties  
 ROOFERS:  
 Imperial County  
 Inyo, Kern and Mono Counties  
 Riverside and San Bernardino  
 Counties  
 Los Angeles, Orange and Ventura  
 Counties  
 San Luis Obispo and Santa  
 Barbara Counties  
 SHEET METAL WORKERS:  
 Imperial County  
 Kern County (China Lake Naval  
 Ordnance Test Station and  
 Edwards AFB)  
 Kern County (Remainder of  
 County and all of Inyo and  
 Mono Counties, Los Angeles  
 County (That portion North  
 of a straight line drawn  
 between Gorman and Big Pines)  
 Los Angeles County (Remaining  
 portion)  
 Orange County  
 Riverside and San Bernardino  
 Counties  
 San Luis Obispo, Santa Barbara  
 and Ventura Counties

| Basic Hourly Rates   | Fringe Benefits Payments |          |          | Education and/or Appr. Tr. |
|--|--------------------------|----------|----------|----------------------------|
|  | H & W                    | Pensions | Vacation |                            |
| \$ 10.14   | \$ 1.15                  | \$ 2.45  | .60      |                            |
| LABORERS (Tunnel)  |                          |          |          |                            |
| BATCH PLANT LABORERS; Bull Gang Mucker, Trackman; Concrete Crew, including Rodders and Spreaders; Changehouseman; Dumpman; Dumpman (outside); Swamper (brakeman and Switchman on tunnel work); Tunnel materials handling Man; Tool Man   |                          |          |          |                            |
| \$ 10.26   | 1.15                     | 2.45     | .60      |                            |
| CABLE TENDER; Chuck Tenders; Nipper; Steel form raiser and setter's helper; Vibratorman, Jackhammer, pneumatic tools (except drills); Loading and unloading agitator cars; Pot tender using mastic or other materials  |                          |          |          |                            |
| BLASTER, Driller, Powderman; Chemical grout jetman; Cherry pickerman; Grout gunman; Grout Mixerman; Grout pumpman; Jack-leg miners; Jumbo man; Kemper and other pneumatic concrete placer operator; Miner tunnel (hand or machine); Powderman (primer house); Primer Man; Shotcrete Man; Steel Form Raiser and setter; Timberman; Retriever (wood or steel); Tunnel concrete finisher; Mortleman; Operating troweling and/or Grouting Machine; Sandblaster |                          |          |          |                            |
| 10.42  | 1.15                     | 2.45     | .60      |                            |
| SHALT, Raise miner; Diamond driller  |                          |          |          |                            |
| 10.70  | 1.15                     | 2.45     | .60      |                            |

| Basic Hourly Rates   | Fringe Benefits Payments |          |          | Education and/or Appr. Tr. |
|--|--------------------------|----------|----------|----------------------------|
|  | H & W                    | Pensions | Vacation |                            |
| \$ 9.55  | .60                      | \$ 1.05  |          | .07                        |
| SOFT FLOOR LAYERS; Imperial County; Los Angeles, Orange, Riverside, Santa Barbara, San Luis Obispo, San Bernardino and Ventura Counties; Kern County, including that portion lying East of the Los Angeles Aqueduct and that portion of Inyo County included within the Inyo-Kern Naval Reservation  |                          |          |          |                            |
| 11.72  | .70                      | .97      | .83      | .06                        |
| SPRINKLER FITTERS; Imperial Inyo, Kern, Mono, Orange (except Santa Ana), Riverside, San Bernardino (except Ontario), San Luis Obispo, Santa Barbara and Ventura (except Santa Paula, Point Hugu and Port Huene) Los Angeles (Los Angeles City and Area within 25 miles and Pomona), Orange (Santa Ana), San Bernardino (Ontario), and Ventura (Santa Paula, Point Hugu and Port Huene) |                          |          |          |                            |
| 10.42  | .75                      | .60      | 1.18     | .07                        |
| TERNAZZO WORKERS; Imperial County  |                          |          |          |                            |
| 15.52  | .75                      | 1.05     |          | .08                        |
| TILE SETTERS; Imperial County  |                          |          |          |                            |
| 14.66  | .66                      | .90      |          | .09                        |
| 12.34  | .61                      | 1.17     |          | .08                        |
| 12.34  | .61                      | 1.17     |          | .08                        |
| 12.62  | 1.00                     | 1.20     |          | .10                        |
| 10.50  | 1.20                     | 1.85     |          | .07                        |
| 12.57  | 1.03                     | 1.35     |          |                            |
| 11.20  | .65                      | .55      |          |                            |
| 9.96   | 1.39                     | 1.30     |          | .13                        |

PAID HOLIDAYS:  
 A-New Year's Day; B-Memorial Day; C-Independence Day;  
 D-Labor Day; E-Thanksgiving Day; F-Christmas Day.

FOUNTAINES

a. Employer contributes 8% of basic hourly rate for over 5 years' service and 6% of basic hourly rate for 6 months to 5 years' service as Vacation Pay Credit. Six Paid Holidays: A through F.

b. Employer contributes \$.23 per hour to Holiday Fund plus \$.16 per hour to Vacation Fund for the first year of employment, 1 year but less than 5 years \$.34 per hour to Vacation Fund, 5 years but less than 10 years \$.44 per hour to Vacation Fund; over 10 years \$.54 per hour to Vacation Fund.

LABORERS (Cont'd)

|                      | Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or App. Tr. |
|----------------------|--------------------|--------------------------|----------|----------|---------------------------|
|                      |                    | H.A.W.                   | Pensions | Vacation |                           |
| LABORERS             |                    |                          |          |          |                           |
| Group 1              | \$ 9.60            | \$1.15                   | \$ 2.45  | .00      | .12                       |
| Group 2              | 9.75               | 1.15                     | 2.45     | .00      | .12                       |
| Group 3              | 9.95               | 1.15                     | 2.45     | .00      | .12                       |
| Group 4              | 10.10              | 1.15                     | 2.45     | .00      | .12                       |
| Group 5              | 10.25              | 1.15                     | 2.45     | .00      | .12                       |
| LABORERS (Gunnite)   |                    |                          |          |          |                           |
| Nozzlemen and Rodmen | 10.07              | 1.15                     | 2.45     | .00      |                           |
| Gunmen               | 9.57               | 1.15                     | 2.45     | .00      |                           |
| Reboundmen           | 8.61               | 1.15                     | 2.45     | .00      |                           |

LABORERS

Group 1: Boring Machine Helper (outside); Cleaning and Handling of Panels, Forms; Concrete Screeding for rough strike-off; Concrete, water curing; Demolition Laborer, the cleaning of brick and lumber; Dry packing of concrete, plugging, filling of Shee-bolt Holes; Fire Watcher, Limbers, Brush Loaders, Piers and Debris Handlers; Flag-man; Gas, oil and/or water pipeline laborer; Laborer, general or construction; Laborer; general cleanup; Laborer, landscaping; Laborer, jetting, temporary water and air lines; Material Housman (walls, slabs, floors and decks); Rigging and signaling; Scaler; Slip Form Raisers; Slurry Seal crews (mixer operator, applicator operator, squeeze man, shuttle man, top man); Stripper, asphalt, concrete or other paved surfaces; Tarman and mortar man; Tool crib or tool house Laborer; Traffic delineating device applicator; Window cleaner; Wire mesh pulling--all concrete pouring operations

Group 2: Asphalt Shovelers; Cement dumper (on 1 yard or larger mixer and handling bulk cement); Caspooil Digger and Installer; Chucktender; Chute Man, pouring concrete, the handling of the chute from ready-mix trucks, such as walls, slabs, decks, floors, foundations, 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 man; Guinea chaser; Headerboard Man--asphalt; Laborer, packing rod steel and pans; Power broom sweepers (small); Riprap stonepaver, placing stone or wet sacked concrete; Moto scraper and tiller; Sandblaster (pot tender); Septic tank digger and installer (leadman); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush shredders; Underground laborer, including caisson bellow

Group 3: Asphalt raker, luteman, ironer and asphalt spreader boxes (all types); Buggyman; Concrete core cutter, grinder or sander; Concrete cutting torch; Concrete saw man, cutting, scoring old or new concrete; Driller, jackhammer, 2-1/2 ft. drill steel or longers; Dry Pak-it machine; Gas, oil and/or water pipeline wrapper--6" pipe and over by any method, inside and out; Hydro sealer and similar type; Impact wrench, multi-plate; Kettleman, potmen and men 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 water-proofing); Operators of pneumatic, gas, electric tools, vibrating machines, pavement breakers, air blasting, come-alongs, and similar mechanical tools not separately classified herein; Pipelayer's Backup man, coating, grouting, making of joints, sealing, caulking, dispersing and including rubber gasket joints, pointing and any and all other services; Buck slinger; Rotary scarifier or multiple head concrete chipping scarifier; Steel headerboard man and guide-line setter; Tamper, barko, wacker and similar type; Trenching machine, hand propelled

Group 4: Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Head rock slinger; Laser beam; Over-size concrete vibrator operator, 70 lbs. and over; Pipelayer, including water, sewage, solid, gas or air; Prefabricated manhole installer; Sandblaster (nozzlemans), water blasting; Welding in connection with laborers' work

Group 5: Blasters powderman--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 jack-hammer, whether core, diamond, wagon, track, multiple unit, and any and all types of mechanical drills

POWER EQUIPMENT OPERATORS

Group 1: Brakeman; Compressor (less than 600 C.F.M.); Engineer; Oiler; Generator; Heavy Duty Repairman; Helper; Pump; Signalman; Switchman

Group 2: Compressor (600 C.F.M. or larger); Concrete Mixer, skip type, conveyor; Fireman; Hydrostatic Pump; Oiler; Crusher (asphalt or concrete plant); Plant Operator; Generator, Pump or Compressor; Rotary Drill Helper (oilfield); Skiploader - wheel type up to 3/4 yd. w/o attachments; Soils Field Technician; Tar Pot Fireman; Temporary Heating Plant; Trenching Machine Oiler; Truck Crane Oiler

Group 3: A-Frame or Winch Truck; Elevator Operator (inside); Equipment Greaser (track); Ford Ferguson (with dragtype attachments); Helicopter Mechanic (ground); Power Concrete Curing Machine; Power Concrete Saw; Power Driver Jumbo Form Setter; Moss Carrier (job site); Stationary Pipe Wrapping and Cleaning Machine

Group 4: Asphalt Plant Fireman; Boring Machine; Boxman or Mixerman (asphalt or concrete); Chip Spreading Machine; Concrete Pump (small portable); Bridge type Unloader and Turntable; Binky Locomotive or Motorcar (up to and including 10 tons); Equipment Greaser (grasser truck); Helicopter Hoist; Highline Cableway Signalman; Hydra-hammer-zero Stomper; Power Sweeper; Roller (compacting); Boreseed (asphalt or concrete); Trenching Machine (up to 6 ft.)

Group 5: Asphalt Plant Engineer; Backhoe (up to and including 3/4 yd.); Batch Plant; Bit Sharpener; Concrete Joint Machine (canal and similar type); Concrete Planer; Deck Engine; Derrick-man (oilfield type); Drilling Machine Operator (including water well); Forklift (under 5-ton capacity); Hydrographic Recorder Machine (straw, pulp or seed); Machine Tool Operator; Maginnis Internal P 11 Slab Vibrator; Mechanical Bore, Cut or Gutter (concrete or asphalt); Mechanical Finisher (truck mounted); Johnson, Alwell or similar; Pavement Breaker (truck mounted); Road Oil Mixing Machine; Roller (asphalt or finish); Rubber-tired Earth Moving Equipment (single engine, up to and including 25 yds. track); Self-propelled Tar Pipelining Machine; Slip Form Pump (power-driven hydraulic lifting device for concrete forms); Skiploader (Crawler and wheel type over 3/4 yd. and up to and including 14 yds.); Stinger Crane (Austin-Western or similar type); Tractor-buildorer, Tamper Scraper (single engine, up to 100 h.p., flywheel and similar types, up to and including 9-5 and similar type); Tugger Hoist 1 drum; Tunnel Locomotive (over 10 and up to and including 30 tons); Welder-general

Group 6: Asphalt or Concrete Spreading (tamping or finishing); Asphalt Paving Machine (Barber Greene or similar type); Bridge Crane Operator; Cast-in-place Pipe Laying Machine; Combination Mixer and Compressor (gunite work); Compactor, self-propelled; Concrete Mixer - paving; Concrete Pump (truck mounted); Crane Operator up to and including 25 ton capacity; Long-boom pay applicator; Crushing Plant; Drill Doctor; Elevating Grader; Forklift (over 5 tons); Grade Checker; Grade-all; Grouting Machine; Heading Shield; Heavy Duty Repairman; Hoist Operator (Chicago Boom and similar type); Koman Belt Loader and similar types; LeTourneau slob Compactor or similar type; Lift Mobile; Lift Slab Machine (Vagtborg and similar types); Loader (Athy, Euclid, Sierra and similar type); Material Hoist; Pucking Machine (1/4 yd. rubber tired, rail or track type); Pneumatic Concrete

POWER EQUIPMENT OPERATORS  
DREDGING  
(Hydraulic Suction Dredges)

LEVERMAN  
WATCH ENGINEER, Welder  
DECKHATE  
WINCHMAN (stern winch or dredge)  
BARGEHAND, Deckhand, Fireman;  
Oiler, Leveehand

(Clamshell Dredges)

LEVERMAN  
WATCH ENGINEER  
DECK HATE  
BARGE HATE  
BARGEHAND, Deckhand, Fireman;  
Oiler

POWER EQUIPMENT OPERATORS

Group 1;  
Group 2;  
Group 3;  
Group 4;  
Group 5;  
Group 6;  
Group 7;  
Group 8;  
Group 9;

| Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or App. Tr. |
|--------------------|--------------------------|----------|----------|---------------------------|
|                    | M & W                    | Postings | Vacation |                           |
| \$ 11.60           | .95                      | \$ 2.00  | .50      | .04                       |
| 11.02              | .95                      | 2.00     | .50      | .04                       |
| 10.54              | .95                      | 2.00     | .50      | .04                       |
| 10.47              | .95                      | 2.00     | .50      | .04                       |
| 9.93               | .95                      | 2.00     | .50      | .04                       |
| 11.60              | .95                      | 2.00     | .50      | .04                       |
| 11.02              | .95                      | 2.00     | .50      | .04                       |
| 10.54              | .95                      | 2.00     | .50      | .04                       |
| 10.47              | .95                      | 2.00     | .50      | .04                       |
| 9.93               | .95                      | 2.00     | .50      | .04                       |
| 10.70              | 1.00                     | 2.00     | .55      | .14                       |
| 10.38              | 1.00                     | 2.00     | .55      | .14                       |
| 11.27              | 1.00                     | 2.00     | .55      | .14                       |
| 11.41              | 1.00                     | 2.00     | .55      | .14                       |
| 11.63              | 1.00                     | 2.00     | .55      | .14                       |
| 11.76              | 1.00                     | 2.00     | .55      | .14                       |
| 11.86              | 1.00                     | 2.00     | .55      | .14                       |
| 12.03              | 1.00                     | 2.00     | .55      | .14                       |
| 12.16              | 1.00                     | 2.00     | .55      | .14                       |



Placing Machine (Hackley-Fresswell or similar type); Pneumatic Heading Shield (tunnel); Pumpcrete Gun; Rotary Drill (excluding caisson type); Rubber-tired Earth Moving Equipment (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 (multiple engine, up to and including 25 yds. struck); Rubber-tired Scraper (self-loading-paddle wheel type-John Deere, 1040 and similar single unit); Skiploader (crawler and wheel type-over 1 1/2 yds., up to and including 6 1/2 yds.); Surface Heaters and Planer; Trenching Machine (over 6 ft. depth capacity); Tower Crane; Tractor Compressor Drill Combination; Tractor (any type larger than D-5-100 flywheel h.p. and over, or similar) Bulldozer, Tamper, Scraper and Push Tractor (single engine); Tractor (boom attachments); Traveling Pipe Wrapping, Cleaning and Bending Machine; Tunnel Locomotive (over 30 tons); Shovel, Backhoe, Dragline, Clamshell (over 3/4 yd. and up to 5 cu. yds. m.r.o.) (Long Boom pay applicable); Self-propelled Curb and Gutter Machine

Group 7: Crane, over 25 ton up to and including 100 tons m.r.o. (long boom pay applicable); Derrick Barge (long boom pay applicable); Dual Drum Mixer; Heavy Duty Repairman-welder Combination; Hoist, Stiff-legs, Guy Derrick or similar type, up to and including 100 tons (long boom pay applicable); Monorail Locomotive (diesel), gas or electric; Motor Patrol-blade Operator (single engine); Multiple Engine Tractor (Euclid and similar type, except quad 9 Cat); Rubber-tired Earth Moving Equipment (single engine, over 50 yds. struck); Rubber-tired Earth Moving Equipment (multiple engine, Euclid, Caterpillar and similar) (over 25 yds. and up to 50 cu. yds. struck); Shovel, Backhoe, Dragline, Clamshell (over 5 cu. yds. m.r.o.) (long boom pay applicable); Tower Crane Repairman; Tractor Loader (crawler and wheel type over 6 1/2 yds.); Welder-certified; Woods Mixer and similar Pugmill Equipment

Group 8: Auto Grader; Automatic Slip Form; Crane-over 100 tons (long boom pay applicable); Hoist-stiff Legs, Guy Derrick or similar types (capable of hoisting 100 tons or more) (long boom pay applicable); Mass Excavator - less than 750 cu. yds.; Mechanical Finishing Machine; Mobile Form Traveler; Motor Patrol, multi-engine; Pipe Mobile Machine; Rubber-tired earth moving equipment (multiple engine, Euclid, Caterpillar and similar type over 50 cu. yds. struck); Rubber-tired self-loading Scraper (paddle wheel-auger type self-loading-2 or more units); Rubber-tired Scraper - pushing one another w/o Push Cat. Push-pull (50¢ per hour additional to base rate); Tandem Equipment (2 units only); Tandem Tractor (quad 9 or similar type); Tunnel Hole Boring Machine

Group 9: Canal Liner; Canal Trimmer; Helicopter Pilot; Highline Cableway; Remote Controlled Earth Moving Equipment (\$1.00 p/h additional to base rate); Wheel Excavator (over 750 cu. yd.)

TRUCK DRIVERS

- Group 1:
- Group 2:
- Group 3:
- Group 4:
- Group 5:
- Group 6:
- Group 7:
- Group 8:
- Group 9:
- Group 10:
- Group 11:
- Group 12:
- Group 13:
- Group 14:
- Group 15:
- Group 16:
- Group 17:
- Group 18:
- Group 19:

| Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| \$ 9.52            | \$ 1.25                  | .75      | \$1.10   | .10                        |
| 9.60               | 1.25                     | .75      | 1.10     | .10                        |
| 9.66               | 1.25                     | .75      | 1.10     | .10                        |
| 9.75               | 1.25                     | .75      | 1.10     | .10                        |
| 9.78               | 1.25                     | .75      | 1.10     | .10                        |
| 9.80               | 1.25                     | .75      | 1.10     | .10                        |
| 9.84               | 1.25                     | .75      | 1.10     | .10                        |
| 9.85               | 1.25                     | .75      | 1.10     | .10                        |
| 9.90               | 1.25                     | .75      | 1.10     | .10                        |
| 9.93               | 1.25                     | .75      | 1.10     | .10                        |
| 9.98               | 1.25                     | .75      | 1.10     | .10                        |
| 10.00              | 1.25                     | .75      | 1.10     | .10                        |
| 10.05              | 1.25                     | .75      | 1.10     | .10                        |
| 10.30              | 1.25                     | .75      | 1.10     | .10                        |
| 10.55              | 1.25                     | .75      | 1.10     | .10                        |
| 10.65              | 1.25                     | .75      | 1.10     | .10                        |
| 10.75              | 1.25                     | .75      | 1.10     | .10                        |
| 11.05              | 1.25                     | .75      | 1.10     | .10                        |
| 11.55              | 1.25                     | .75      | 1.10     | .10                        |

TRUCK DRIVERS

- Group 1: Warehouseman and Teamster
- Group 2: Driver or vehicle or combinations of vehicles of 2 axles (including all vehicles less than six tons); Traffic Control Pilot Car, excluding moving heavy equipment permit load
- Group 3: Truck mounted Power Broom
- Group 4: Drivers of vehicles or combination of vehicles of 3 axles
- Group 5: Bootman; Cement Distributor; Fuel Truck; Road Oil Spreader Truck; Water Truck, 2 axle
- Group 6: Dump, of less than 16 yards
- Group 7: Transit-mix, under 3 yards; Dumpcrete, less than 6 1/2 yards
- Group 8: Truck Repairman Helper
- Group 9: Water Truck, 3 or more axles
- Group 10: PB and similar type truck when performing within the Teamsters' jurisdiction; Pipeline and Utility working Truck including Winch, but limited to truck applicable to Pipeline and Utility work, where a composite crew is used; Slurry Driver; Truck Greaser and Tireman (50¢ per hour additional for Tireman)
- Group 11: Transit-mix, 3 yards or more; Dumpcrete, 6 1/2 yards and over

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DECISION NO. FL73-1063 (cont'd)

**VEHICLE EQUIPMENT OPERATIONS**

**TRUCK DRIVERS (Cont'd)**

- Group 12: Driver of vehicle or combination of vehicles of 4 or more axles
- Group 13: Dump, 16 yards but less than 25 yards
- Group 14: A-Frame or Swedish Crane, or similar type of equipment driver; Fork Lift Driver; Boss Carrier, highway
- Group 15: All-off-highway Equipment within Teamsters jurisdiction (off highway combination of vehicles or equipment with multiple power sources, \$1.00 per hour additional); Dump, 25 yards or more; Truck Repairman
- Group 16: Truck Repairman Welder
- Group 17: Low Bed driver, 9 axle or over
- Group 18: Water Full, single engine with attachments
- Group 19: Water Full, twin engine with attachments

**SUPERSEDES DECISION**

STATE: Florida  
 COUNTY: Leon  
 DECISION NUMBER: 117.1-1058  
 DATE: Date of Publication  
 SUPERSEDES DECISION NO.: FL77-1049 dated April 29, 1977 in 42 FR 22080  
 DESCRIPTION OF WORK: Building Construction (excluding single family homes and garden type apartments up to and including 4 stories).

|   | Basic Hourly Rates | Fringe Benefits Payments |           |          |         | Education and/or Appr. Tr. |
|---|--------------------|--------------------------|-----------|----------|---------|----------------------------|
|   |                    | H & W                    | Positions | Vacation |         |                            |
| Asbestos workers  | 11.27              | .45                      | .55       |          | .04     |                            |
| Bricklayers   | 7.00               |                          |           |          | .08+.02 |                            |
| Cement masons   | 7.05               | .30                      | .30       |          |         |                            |
| Carpenters  | 6.54               | .25                      |           |          | .03     |                            |
| Drywall hangers   | 6.95               | .50                      | .32       |          | 0.52    |                            |
| Electricians  | 8.75               |                          |           |          |         |                            |
| Glaziers  | 6.43               |                          |           |          |         |                            |
| Laborers  | 4.25               | .20                      |           |          |         |                            |
| Concrete cutters, Grouters; Guniters workers; Masons Tenders                                  | 4.40               | .20                      |           |          |         |                            |
| Mechanical tool operators; Mortar mixers; Pipelayers; Plasterer tender; Power buggy operators | 6.96               | .20Z                     |           |          |         |                            |
| Plumbers  | 5.00               |                          |           |          |         | .07                        |
| Roofers   | 8.00               | .85                      | .55       |          |         |                            |
| Sheet metal workers   | 7.10               | .25                      |           |          |         |                            |
| Soft floor layers   | 7.10               |                          |           |          |         |                            |
| Truck drivers   | 3.04               |                          |           |          |         | .03                        |
| Welders - rate for craft.   |                    |                          |           |          |         |                            |

|           | Basic Hourly Rates | Fringe Benefits Payments |           |          | Education and/or Appr. Tr. |
|-----------|--------------------|--------------------------|-----------|----------|----------------------------|
|           |                    | H & W                    | Positions | Vacation |                            |
| GROUP I   | 9.40               | .50                      | .35       |          | .05                        |
| GROUP II  | 8.30               | .50                      | .35       |          | .05                        |
| GROUP III | 7.32               | .50                      | .35       |          | .05                        |
| GROUP IV  | 6.21               | .50                      | .35       |          | .05                        |

GROUP I: Cranes, derricks, clam shells, draglines, piledriver (including auger & boring machine for drilling in piling), backhoes, hydra crane, Granda all, shovels, paltors, cableways, tug boat captain (150 H.P. or more), multi-boil operator (similar to R.C. LeTourneau model L-60-2 or 3 twenty cu. yd. scrapers front end loaders, (over 4 cy. cap.), side boom cats, multi-drum hoist (for rigging), mechanic (heavy equip), tower crane (stationary, climbing & traveling), gantry cranes, locomotive cranes, bridge cranes (over 20 ton cap.), concrete pump with boom (mobile), high lift or fork lift (second floor & higher), locomotive engineer (jobs not covered by railroad unions)

GROUP II: Bulldozers, bridge cranes (20 tons & under), highlift or fork lift (up to 2nd floor), straddle buggys, hoists (other than rigging) including winch truck not mobile & used aloft, front end loader (over 2 cy & up to 4 incl., 4 cy cap.), trenching machine (bladder & wheel type) over 6' cut & 24" width, concrete paver & scrapers

GROUP III: Concrete pumps, front end loader (2 cy or less not used as hoist) mobile winch trucks, self-propelled sub-grader, asphalt paving machine, concrete mixer, tractors, air compressor plant (2 or more compressors on a common manifold) lubricating engineer (mobile plant), pavement breakers, street sweeping machines

GROUP IV: Tractor operated sweeper, trenching machine (bladder & wheel type maximum cut 6' & maximum width 24"), flicemen, self-propelled rollers, wellpoint pump, asphalt distributor, water truck driver, motor boat operator, oiler, mechanics' helpers, pumpman (other than well point up to 4 incl., 5 pumps within 300 ft. radius), self-propelled sweepers, combination pump, compressor & combustion type welding machine

[4510-27]

## DEPARTMENT OF LABOR

Employment Standards Administration  
 MINIMUM WAGES FOR FEDERAL AND  
 FEDERALLY ASSISTED CONSTRUCTION

## General Wage Determination Decisions

General Wage Determination Decisions of the Secretary of Labor specify, in accordance with applicable law and on the basis of information available to the Department of Labor from its study of local wage conditions and from other sources, the basic hourly wage rates and fringe benefit payments which are determined to be prevailing for the described classes of laborers and mechanics employed in construction activity of the character and in the localities specified therein.

The determinations in these decisions of such prevailing rates and fringe benefits have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates, (37 FR 21138) and of Secretary of Labor's Orders 12-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

Good cause is hereby found for not utilizing notice and public procedure thereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in effective date as prescribed in that section, because the necessity to issue construction industry wage determination frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General Wage Determination Decisions are effective from their date of publication in the FEDERAL REGISTER without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Ac-

cordingly, the applicable decision together with any modifications issued subsequent to its publication date shall be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable Federal prevailing wage law and 29 CFR, Part 5. The wage rates contained therein shall be the minimum paid under such contract by contractors and subcontractors on the work.

## MODIFICATIONS AND SUPERSEDEAS DECISIONS TO GENERAL WAGE DETERMINATION DECISIONS

Modifications and Supersedeas Decisions to General Wage Determination Decisions are based upon information obtained concerning changes in prevailing hourly wage rates and fringe benefit payments since the decisions were issued.

The determinations of prevailing rates and fringe benefits made in the Modifications and Supersedeas Decisions have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 149, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 13-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in foregoing General Wage Determination Decisions, as hereby modified, and/or superseded shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged in contract work of the character and in the localities described therein.

Modifications and Supersedeas Decisions are effective from their date of publication in the FEDERAL REGISTER without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Any person, organization, or governmental agency having an interest in the wages determined as prevailing is encouraged to submit wage rate information for consideration by the Department. Further information and self-explanatory forms for the purpose of submitting this data may be ob-

tained by writing to the U.S. Department of Labor, Employment Standards Administration, Office of Specific Wage Standards, Division of Wage Determinations, Washington, D.C. 20202. The cause for not utilizing the rule-making procedures prescribed in 5 U.S.C. 553 has been set forth in the original General Wage Determination Decision.

## MODIFICATIONS TO GENERAL WAGE DETERMINATION DECISIONS

The numbers of the decisions being modified and their date of publication in the FEDERAL REGISTER are listed with each State.

Arizona, AZ78-5114, Aug. 11, 1978  
 Arkansas, AR78-4063 Jun. 16, 1978; AR78-4064, AR78-4067, AR78-4068, AR78-4069, Jun. 23, 1978.  
 California, CA78-5123, Aug. 18, 1978.  
 Connecticut, CT75-2067, Apr. 25, 1978.  
 Florida, FL78-1043, Apr. 14, 1978.  
 Hawaii, HI78-5016, Mar. 17, 1978.  
 Louisiana, LA78-4072, July 14, 1978; LA78-4077, Aug. 11, 1978.  
 Maryland, MD77-3086, Aug. 5, 1977.  
 Michigan, MI78-2054, Jun. 2, 1978.  
 Nevada, NV78-5010, Mar. 10, 1978.  
 New Jersey, NJ78-3009, Apr. 21, 1978.  
 North Dakota, ND78-5113, Jul. 21, 1978.  
 Pennsylvania, PA78-3053, Aug. 11, 1978.  
 Texas, TX78-4017, Mar. 10, 1978; TX78-4038, Apr. 14, 1978; TX78-4051, May 12, 1978; TX78-4073, Jul. 21, 1978; TX78-4075, TX78-4079, Aug. 11, 1978; TX78-4080, Aug. 4, 1978; TX78-4083, TX78-4084, Aug. 25, 1978.

## SUPERSEDEAS DECISIONS TO GENERAL WAGE DETERMINATION DECISIONS

The numbers of the decisions being modified and their dates of publication in the FEDERAL REGISTER are listed with each State. Supersedeas Decision numbers are in parentheses following the numbers of the decisions being superseded.

Guam, GU78-5021(GU78-5127), Mar. 24, 1978.  
 Mississippi, MS78-1014(MS78-1079), Feb. 17, 1978.  
 Nevada, NV78-5009(NV78-5124), Mar. 10, 1978.  
 Oklahoma, OK77-4036(OK78-4093), Feb. 18, 1977.  
 Texas, TX77-4139(TX78-4089), Jul. 1, 1977; TX78-4032(TX78-4090), Apr. 14, 1977; TX78-4014(TX78-4091), Feb. 17, 1977; TX78-4042(TX78-4092), Apr. 14, 1978.  
 Virginia, VA78-3244(VA78-3061), Sept. 1, 1978.

## CANCELLATION OF GENERAL WAGE DETERMINATION DECISIONS

None.

Signed at Washington, D.C. the 15 day of September 1978.

— DONALD M. ENGLISH  
 Acting Administrator  
 Wage and Hour Division

MODIFICATIONS P. 4

DECISION ACT 71-2067 - Mod. #1  
(43 FR 18106 April 25, 1978)  
Wartford County, Connecticut

| Basic Hourly Rates | Fringe Benefits Payments |         |          | Education and/or Appr. Tr. |
|--------------------|--------------------------|---------|----------|----------------------------|
|                    | M & W                    | Pension | Vacation |                            |
| 310.91             | 3.00                     | 317.40  |          | .62                        |
| 9.85               | .70                      | 324.30  | .43      | .03                        |
| 10.40              | 1.22                     | 317.60  | 6        | 1/82                       |
| 11.30              | 1.50                     | 317.50  |          | .62                        |

CHANGE:

Residential Construction  
Electricians:  
Berlin, Bristol, New Britain,  
Newington, Plainville, South-  
ington  
Suffield & Enfield (portion of  
Thompsonville West of George  
Washington Road and North of  
Hazard Ave)  
Hartland  
Remainder of County

FOOTNOTE:

b. The last four regular working  
prior to Christmas Day shall  
be paid half day.

DECISION #7178-1043 - Mod. #2  
(43 FR 16043 - April 14, 1978)  
Duval County, Florida

Change:

Bitlayers; Stonemasons  
Carpenters; Acoustical ceiling  
Drywall installer  
Cement Masons  
Ironworkers  
Millwrights  
Painters;  
Brush  
Paperhangers  
Boiler  
Spray; Sandblast  
Pile drivers  
Soft floor layers  
Sprinkler fitters

MODIFICATIONS P. 3

DECISION NO. AR78-4069 - Mod. #1  
(43 FR 27346 - June 23, 1978)  
Jefferson County, Arkansas

| Basic Hourly Rates | Fringe Benefits Payments |         |          | Education and/or Appr. Tr. |
|--------------------|--------------------------|---------|----------|----------------------------|
|                    | M & W                    | Pension | Vacation |                            |
| 11.10              | .50                      | .70     |          | .02                        |
| 10.55              | .60                      | 1.00    |          | .02                        |
| 10.00              | .45                      | .55     |          | .04                        |
| 6.25               | .33                      | .60     |          |                            |
| 6.50               | .33                      | .60     |          |                            |
| 6.65               | .33                      | .60     |          |                            |
| 6.75               | .33                      | .60     |          |                            |
| 6.90               | .33                      | .60     |          |                            |
| 7.15               | .33                      | .60     |          |                            |
| 6.95               | .33                      | .60     |          | .02                        |
| 9.70               |                          |         |          |                            |
| 10.10              | .55                      | .55     |          | .10                        |
| 10.75              | .55                      | .55     |          | .10                        |
| 11.30              | .55                      | .55     |          | .10                        |

CHANGE:

ASBESTOS WORKERS  
BOILERMAKERS  
IRONWORKERS  
LABORERS:  
Group I  
Group II  
Group III  
Group IV  
Group V  
Group VI  
Group VII  
PLASTERERS  
PLUMBERS:  
0 to 9 miles from Jefferson County  
Courtthouse  
9 to 45 miles from Jefferson County  
Courtthouse  
45 miles and over from Jefferson  
County Courthouse

DECISION NO. CN78-5123 - Mod. #1  
(43 FR 36819 - August 18, 1978)  
Imperial, Kern, Los Angeles,  
Orange, Riverside, San-  
Bernardino, San Luis Obispo,  
Santa Barbara and Ventura  
Counties, California

Change:

LABORERS:  
Group 1  
Group 2  
Group 3  
Group 4  
Group 5

MODIFICATIONS P. 13

DECISION NO. ND78-5113 (Cont'd)

|  | Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|--|--------------------|--------------------------|----------|----------|----------------------------|
|  |                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| <b>Line Construction:</b>  |                    |                          |          |          |                            |
| Group 1  | \$10.53            | .45                      | 3%       |          | 1/2%                       |
| Group 2  | 8.46               | .45                      | 3%       |          | 1/2%                       |
| Group 3  | 7.04               | .45                      | 3%       |          | 1/2%                       |
| Group 4  | 6.46               | .45                      | 3%       |          | 1/2%                       |
| <b>Plasterers:</b>   |                    |                          |          |          |                            |
| Grand Forks, Walsh and Steele Counties                                     | 8.84               |                          | .30      |          |                            |
| Ward County  | 8.75               |                          |          |          |                            |
| <b>Roofers:</b>  |                    |                          |          |          |                            |
| Cass and Richland Counties   | 9.05               |                          |          |          |                            |
| <b>Power Equipment Operators:</b>  |                    |                          |          |          |                            |
| <b>Building Construction:</b>  |                    |                          |          |          |                            |
| Group 1  | 10.00              | .45                      | .40      |          |                            |
| Group 2  | 9.05               | .45                      | .40      |          |                            |
| Group 3  | 8.45               | .45                      | .40      |          |                            |
| Group 4  | 7.45               | .45                      | .40      |          |                            |
| <b>Add:</b>  |                    |                          |          |          |                            |
| <b>Cement Masons:</b>  |                    |                          |          |          |                            |
| Ward County  | 8.75               |                          |          |          |                            |
| <b>Glaziers:</b>   |                    |                          |          |          |                            |
| Burleigh County  | 7.16               |                          |          |          |                            |
| <b>Soft Floor Layers:</b>  |                    |                          |          |          |                            |
| Burleigh County  | 8.20               |                          |          |          |                            |
| <b>DECISION #PA78-3051 - Mod. # 2 (43 FR 35871 - August 11, 1978)</b>      |                    |                          |          |          |                            |
| Bucks, Chester, Delaware, Montgomery & Philadelphia Counties, Pennsylvania |                    |                          |          |          |                            |
| <b>Change:</b>   |                    |                          |          |          |                            |
| <b>Roofers:</b>  |                    |                          |          |          |                            |
| All other work   |                    |                          |          |          |                            |
| Commercial   |                    |                          |          |          |                            |
| Composition, damp and water-proofers                                       | \$12.77            | 1.40                     | .95      | •        |                            |
| Roofers Assistant  | 6.00               | 1.40                     | .95      | •        |                            |

MODIFICATIONS P. 14

DECISION #TX78-4017 - Mod. #3 (43 FR 10272 - March 10, 1978) Taylor County, Texas

|  | Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|--|--------------------|--------------------------|----------|----------|----------------------------|
|  |                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| <b>Change:</b>                         |                    |                          |          |          |                            |
| Electricians - Electricians            | 9.80               | .60                      | 3%       |          | 1/4%                       |
| Cable splicers                         | 10.05              | .60                      | 3%       |          | 1/4%                       |
| <b>Line construction:</b>              |                    |                          |          |          |                            |
| Lineman                                | 9.80               | .60                      | 3%       |          | 1/4%                       |
| Cable splicers                         | 10.05              | .60                      | 3%       |          | 1/4%                       |
| Groundman (over 1 year of experience)  | 7.35               | .60                      | 3%       |          | 1/4%                       |
| Groundman (under 1 year of experience) | 5.88               | .60                      | 3%       |          | 1/4%                       |
| Equipment operator                     | 8.04               | .60                      | 3%       |          | 1/4%                       |
| Flat bed truck driver                  | 6.08               | .60                      | 3%       |          | 1/4%                       |
| <b>Painters:</b>                       |                    |                          |          |          |                            |
| Brush, tape & bedding, paper hangers   | 8.00               |                          | .35      |          |                            |
| Spray                                  | 8.875              |                          | .35      |          |                            |

DECISION #TX78-4038 - Mod. #2 (43 FR 16129 - April 14, 1978) Harrison County, Texas

|                           | Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|---------------------------|--------------------|--------------------------|----------|----------|----------------------------|
|                           |                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| <b>Change:</b>            |                    |                          |          |          |                            |
| Bricklayers & stonemasons | 10.25              |                          | .25      |          |                            |

DECISION #TX78-4051 - Mod. #2 (43 FR 20718 - May 12, 1978) Ector & Midland Cos., Texas

|                       | Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|-----------------------|--------------------|--------------------------|----------|----------|----------------------------|
|                       |                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| <b>Change:</b>        |                    |                          |          |          |                            |
| Electricians - Zone 1 | 10.45              | .60                      | 3%       |          | 1/10%                      |
| Zone 2                | 10.75              | .60                      | 3%       |          | 1/10%                      |
| Zone 3                | 10.95              | .60                      | 3%       |          | 1/10%                      |

DECISION #TX78-4073 - Mod. #2 (43 FR 31569 - July 21, 1978) Bell, Bosque, Coryell, Falls, Hill & McLennan Cos., Texas

|                        | Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|------------------------|--------------------|--------------------------|----------|----------|----------------------------|
|                        |                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| <b>Change:</b>         |                    |                          |          |          |                            |
| Building Construction: |                    |                          |          |          |                            |
| Glaziers               | 7.20               |                          |          |          |                            |

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MODIFICATIONS P. 11

DECISION NO. NJ78-3009 - Mod. #4  
 (42 FR 17223) - April 21, 1978  
 Bergen, Essex, Hudson, Hunterdon,  
 Middlesex, Morris, Passaic, Somerset,  
 Sussex, Union and Warren Counties  
 New Jersey

Changes:  
 Bricklayers, Stone Masons, Cement  
 Masons, & Plasterers  
 Zone 7  
 Pipefitters:  
 Bergen & Hudson Counties and  
 the city of Passaic in Passaic  
 County  
 Plumbers & Steamfitters:  
 Zone 1  
 Plumbers  
 Zone 5  
 Zone 6  
 Steamfitters  
 Plumbers  
 Plumbers & Pipefitters:  
 Zone 2  
 Plumbers:  
 Zone 1  
 Zone 2  
 Zone 3

| Basic<br>Hourly<br>Rates | Fringe Benefits Payments |          |          |  | Education<br>and/or<br>Appr. Tr. |
|--------------------------|--------------------------|----------|----------|--|----------------------------------|
|                          | H & W                    | Pensions | Vacation |  |                                  |
| 12.15                    | .50                      | .70      |          |  | .02                              |
| 12.30                    | 1.00                     | 1.00     | 1.00     |  | .25                              |
| 13.25                    | .75                      | 1.35     |          |  | .25                              |
| 12.42                    | .65                      | 1.00     | .90      |  | .02                              |
| 12.30                    | 1.00                     | 1.00     | 1.00     |  | .25                              |
| 13.25                    | .75                      | 1.35     |          |  | .25                              |
| 11.67                    | 1.005                    | 1.36     | 1.00     |  | .04                              |
| 13.25                    | .75                      | 1.35     |          |  | .25                              |
| 13.25                    | .75                      | 1.35     |          |  | .25                              |
| 13.25                    | .75                      | 1.35     |          |  | .25                              |

MODIFICATIONS P. 12

DECISION NO. ND78-5113 - Mod. #1  
 (43 FR 31563) - July 21, 1978  
 Burleigh, Cass, Grand Forks,  
 Morton, Richland, Steele,  
 Walsh and Ward Counties,  
 North Dakota

Changes:

Bricklayers; Stonemasons:  
 Burleigh and Morton Cos.  
 Grand Forks, Steele and  
 Walsh Counties  
 Cass and Richland Counties  
 Carpenters:  
 Grand Forks, Steele (Northern  
 Area) and Walsh Counties  
 Carpenters  
 Piledriversmen  
 Ward County  
 Carpenters  
 Piledriversmen  
 Cement Masons:  
 Grand Forks, Steele and  
 Walsh Counties  
 Cass and Richland Counties  
 Laborers:  
 Building Construction:  
 Grand Forks and Steele Cos.  
 Group 1  
 Group 2  
 Group 3  
 Burleigh and Morton Cos.  
 Group 1  
 Group 2  
 Group 3  
 Cass and Richland Cos.  
 Group 1  
 Group 2  
 Group 3  
 Ward County  
 Group 1  
 Group 2  
 Group 3

| Basic<br>Hourly<br>Rates | Fringe Benefits Payments |          |          |                                  |
|--------------------------|--------------------------|----------|----------|----------------------------------|
|                          | H & W                    | Pensions | Vacation | Education<br>and/or<br>Appr. Tr. |
| 10.20                    |                          | .30      |          |                                  |
| 11.15                    |                          | .30      |          |                                  |
| 10.95                    | .60                      | .30      |          |                                  |
| 9.71                     |                          | .20      |          |                                  |
| 9.97                     |                          | .20      |          |                                  |
| 9.23                     |                          |          |          | .02                              |
| 9.46                     |                          |          |          | .02                              |
| 8.10                     |                          | .30      |          |                                  |
| 9.86                     |                          |          |          |                                  |
| 7.47                     | .35                      |          |          |                                  |
| 7.62                     | .35                      |          |          |                                  |
| 7.82                     | .35                      |          |          |                                  |
| 6.90                     | .35                      |          |          |                                  |
| 7.00                     | .35                      |          |          |                                  |
| 7.10                     | .35                      |          |          |                                  |
| 7.04                     | .35                      |          |          |                                  |
| 7.14                     | .35                      |          |          |                                  |
| 7.19                     | .35                      |          |          |                                  |
| 7.04                     | .35                      |          |          |                                  |
| 7.14                     | .35                      |          |          |                                  |
| 7.29                     | .35                      |          |          |                                  |

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DEPARTMENT OF LABOR

Employment Standards Administration

MINIMUM WAGES FOR FEDERAL AND  
FEDERALLY ASSISTED CONSTRUCTION

General Wage Determination Decisions

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The determinations in these decisions of such prevailing rates and fringe benefits have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates, (37 FR 21138) and of Secretary of Labor's Orders 12-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

Good cause is hereby found for not utilizing notice and public procedure thereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in effective date as prescribed in that section, because the necessity to issue construction industry wage determination frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General Wage Determination Decisions are effective from their date of publication in the FEDERAL REGISTER without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision together with any modifications issued

subsequent to its publication date shall be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable Federal prevailing wage law and 29 CFR, Part 5. The wage rates contained therein shall be the minimum paid under such contract by contractors and subcontractors on the work.

Modifications and Supersedeas Decisions to  
General Wage Determination Decisions

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The determinations of prevailing rates and fringe benefits made in the Modifications and Supersedeas Decisions have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 13-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in foregoing General Wage Determination Decisions, as hereby modified, and/or superseded shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged in contract work of the character and in the localities described therein.

Modifications and Supersedeas Decisions are effective from their date of publication in the FEDERAL REGISTER without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Any person, organization, or governmental agency having an interest in the wages determined as prevailing is encouraged to submit wage rate information for consideration by the Department. Further information and self-explanatory forms for the purpose of submitting this data may be obtained by writing to the U.S. Department of Labor, Employment Standards Administration, Office of Special Wage Standards, Division of Wage Determinations, Washington, D.C. 20210.

the cause for not utilizing the rule-making procedures prescribed in 5 U.S.C. 553 has been set forth in the original General Wage Determination Decision.

NEW GENERAL WAGE DETERMINATION  
DECISIONS

Illinois.—IL78-2199.

MODIFICATIONS TO GENERAL WAGE  
DETERMINATION DECISIONS

The numbers of the decisions being modified and their dates of publication in the FEDERAL REGISTER are listed with each State.

|                                 |       |                 |
|---------------------------------|-------|-----------------|
| Arizona:                        |       |                 |
| AZ78-5114                       | _____ | Aug. 11, 1978.  |
| California:                     |       |                 |
| CA78-5122                       | _____ | Do.             |
| CA78-5123                       | _____ | Aug. 18, 1978.  |
| Delaware:                       |       |                 |
| DE78-3080                       | _____ | Nov. 3, 1978.   |
| Florida:                        |       |                 |
| FL78-1070                       | _____ | Aug. 25, 1978.  |
| Illinois:                       |       |                 |
| IL78-2064                       | _____ | Aug. 4, 1978.   |
| IL78-2094; IL78-2105            | _____ | Oct. 20, 1978.  |
| IL78-2117                       | _____ | Nov. 13, 1978.  |
| IL78-2127                       | _____ | Oct. 27, 1978.  |
| IL78-2139                       | _____ | Nov. 3, 1978.   |
| Kentucky:                       |       |                 |
| KY78-1098                       | _____ | Dec. 1, 1978.   |
| Louisiana:                      |       |                 |
| LA78-4099                       | _____ | Oct. 6, 1978.   |
| Nevada:                         |       |                 |
| NV78-5010                       | _____ | Mar. 10, 1978.  |
| NV78-5018                       | _____ | Mar. 17, 1978.  |
| NV78-5124                       | _____ | Sept. 15, 1978. |
| NV78-5129                       | _____ | Oct. 27, 1978.  |
| Pennsylvania:                   |       |                 |
| PA78-3067                       | _____ | Sept. 22, 1978. |
| PA78-3068                       | _____ | Sept. 29, 1977. |
| PA78-3069                       | _____ | Oct. 6, 1978.   |
| Vermont:                        |       |                 |
| VT78-2070                       | _____ | Aug. 11, 1978.  |
| VT78-2091                       | _____ | Oct. 6, 1978.   |
| Virginia:                       |       |                 |
| VA78-3074; VA78-3075; VA78-3076 | _____ | Nov. 3, 1978.   |

SUPERSEDEAS DECISIONS TO GENERAL  
WAGE DETERMINATION DECISIONS

The numbers of the decisions being superseded and their dates of publication in the FEDERAL REGISTER are listed with each State. Supersedeas Decision numbers are in parentheses following the numbers of the decisions being superseded.

|                       |       |                |
|-----------------------|-------|----------------|
| Arkansas:             |       |                |
| AR78-4068 (AR78-4116) | _____ | June 23, 1978. |
| Illinois:             |       |                |
| IL78-2049 (IL78-2143) | _____ | Mar. 24, 1978. |
| IL78-2107 (IL78-2163) | _____ | Oct. 20, 1978. |
| Indiana:              |       |                |
| IN78-2032 (IN78-2162) | _____ | Mar. 10, 1978. |
| Virginia:             |       |                |
| VA77-3082 (VA78-3100) | _____ | June 24, 1978. |

CANCELLATION OF GENERAL WAGE  
DETERMINATION DECISIONS

NONE

Signed at Washington, D.C. this 1st day of December 1978.

DOROTHY P. COME,  
Assistant Administrator,  
Wage and Hour Division.

MODIFICATIONS P. 3

DECISION NO. CA78-5122 - Mod. #2  
 (43 FR 15035 - August 11, 1978)  
 Imperial, Kern, Los Angeles,  
 Orange, Riverside, San-  
 Bernardino, San Luis Obispo,  
 Santa Barbara and Ventura  
 Counties, California

Change:  
 ELECTRICIANS:  
 Imperial County  
 Electricians  
 Cable Splicers  
 Kern (China Lake Ordnance  
 Test Station, Edwards AFB)  
 Electricians, Technicians  
 Cable Splicers  
 Kern County (Remainder of Co.)  
 Electricians, Technicians  
 Cable Splicers  
 Los Angeles County  
 Electricians  
 Cable Splicers  
 Orange County  
 Electricians  
 Cable Splicers  
 Riverside County  
 Electricians  
 Cable Splicers  
 San Bernardino  
 Electricians  
 Cable Splicers  
 San Luis Obispo County  
 Electricians  
 Cable Splicers  
 Santa Barbara County  
 (Vandenberg AFB)  
 Electricians  
 Cable Splicers  
 Remainder of County  
 Electricians  
 Cable Splicers  
 Ventura County  
 Electricians  
 Cable Splicers

| Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or Appr. Tr. |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation |                            |
| \$14.90            | .75                      | 3x+1.45  |          |                            |
| 15.18              | .75                      | 3x+1.45  |          |                            |
| 16.75              | 1.00                     | 3x+1.75  |          | .15                        |
| 18.43              | 1.00                     | 3x+1.75  |          | .15                        |
| 13.75              | 1.00                     | 3x+1.75  |          | .15                        |
| 15.13              | 1.00                     | 3x+1.75  |          | .15                        |
| 13.62              | 1.15                     | 3x+2.15  |          | .12                        |
| 14.22              | 1.15                     | 3x+2.15  |          | .12                        |
| 14.79              | .81                      | 3x+1.45  |          | .02                        |
| 15.47              | .81                      | 3x+1.45  |          | .02                        |
| 14.11              | .85                      | 3x+2.00  |          | .04                        |
| 14.61              | .85                      | 3x+2.00  |          | .04                        |
| 13.55              | 1.21                     | 3x+2.40  |          | .04                        |
| 14.05              | 1.21                     | 3x+2.40  |          | .04                        |
| 14.11              | 1.23                     | 3x+1.50  |          | .03                        |
| 15.50              | 1.23                     | 3x+1.50  |          | .03                        |
| 16.65              | 1.10                     | 3x+1.50  |          | .03                        |
| 17.65              | 1.10                     | 3x+1.50  |          | .03                        |
| 14.65              | 1.10                     | 3x+1.50  |          | .03                        |
| 15.65              | 1.10                     | 3x+1.50  |          | .03                        |
| 14.51              | 1.00                     | 3x+1.55  |          | .02                        |
| 15.96              | 1.00                     | 3x+1.55  |          | .02                        |

MODIFICATIONS P. 4

DECISION NO. CA78-5123 - Mod. #2  
 (43 FR 16819 - August 10, 1978)  
 Imperial, Kern, Los Angeles,  
 Orange, Riverside, San  
 Bernardino, San Luis Obispo,  
 Santa Barbara and Ventura  
 Counties, California

Change:  
 ELECTRICIANS:  
 Imperial County  
 Electricians  
 Cable Splicers  
 Kern (China Lake Naval Ordnance  
 Test Station, Edwards AFB)  
 Electricians, Technicians  
 Cable Splicers  
 Kern County (Remainder of Co.)  
 Electricians, Technicians  
 Cable Splicers  
 Los Angeles County  
 Electricians  
 Cable Splicers  
 Tunnel  
 Electricians  
 Cable Splicers  
 Sound Technicians on existing  
 buildings  
 Orange County  
 Electricians  
 Cable Splicers  
 Riverside County  
 Electricians  
 Cable Splicers  
 Inyo, Mono and San Bernardino  
 Counties  
 Electricians  
 Cable Splicers  
 Tunnel  
 Electricians  
 Cable Splicers  
 San Luis Obispo County  
 Electricians  
 Cable Splicers

| Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or Appr. Tr. |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation |                            |
| \$14.90            | .75                      | 3x+1.45  |          |                            |
| 15.18              | .75                      | 3x+1.45  |          |                            |
| 16.75              | 1.00                     | 3x+1.75  |          | .15                        |
| 18.43              | 1.00                     | 3x+1.75  |          | .15                        |
| 13.75              | 1.00                     | 3x+1.75  |          | .15                        |
| 15.13              | 1.00                     | 3x+1.75  |          | .15                        |
| 13.62              | 1.15                     | 3x+2.15  |          | .12                        |
| 14.22              | 1.15                     | 3x+2.15  |          | .12                        |
| 14.43              | 1.15                     | 3x+1.95  |          | .12                        |
| 14.73              | 1.15                     | 3x+1.95  |          | .12                        |
| 9.59               | .75                      | 3x       |          |                            |
| 14.79              | .81                      | 3x+1.45  |          | .02                        |
| 15.47              | .81                      | 3x+1.45  |          | .02                        |
| 14.11              | .85                      | 3x+2.00  |          | .04                        |
| 14.61              | .85                      | 3x+2.00  |          | .04                        |
| 13.55              | 1.21                     | 3x+2.40  |          | .04                        |
| 14.05              | 1.21                     | 3x+2.40  |          | .04                        |
| *14.93             | 1.21                     | 3x+2.40  |          | .04                        |
| 15.23              | 1.21                     | 3x+2.40  |          | .04                        |
| 14.18              | 1.21                     | 3x+1.50  |          | .03                        |
| 15.60              | 1.21                     | 3x+1.50  |          | .03                        |



MODIFICATIONS P. G

DECISION NO. 1178-2064 - MOD #1  
(43 FR 3662 - August 6, 1978)

Fulton, Hancock, Henderson,  
Knox, McDonough, Mercer,  
Pope, Stark, Tazewell and  
Warren Counties, Illinois

CHANGE:  
Carpenters & Piledrivers;  
Mercer County;  
Carpenters

DECISION NO. 1178-2095 - MOD #2  
(43 FR 49139 - October 20, 1978)

DuPage, Grundy, Kane, Kendall,  
Lake & McHenry Counties, Illinois

CHANGE:  
Laborers:  
Lake County  
CLASS 1  
Building & Plaster Laborers;  
General Laborers (Bricking &  
Demolition) Fireproofing &  
Fire Shop Laborers

CLASS 2  
Cement Gun Laborers & Haul  
CLASS 3  
Chimney Laborers (Over 40');  
Scaffold Laborers; Wall Men  
or Wreckers

CLASS 4  
Stone Derricksmen & Handlers  
CLASS 5  
Jackhammer Men (Tampers &  
Vibrators) Power Driven  
Concrete Saws  
CLASS 6  
Tunnel Diggers, Mill Point  
Systems; Chimney Laborers (on  
Firebrick)

CHANGE:  
Carpenters;  
DuPage & Lake Counties

| Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or Appr. Tr. |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation |                            |
| \$11.435           | .40                      | .90      |          | .04                        |
| \$ 9.20            | .57                      | 1.10     |          |                            |
| 9.275              | .57                      | 1.10     |          |                            |
| 9.30               | .57                      | 1.10     |          |                            |
| 9.40               | .57                      | 1.10     |          |                            |
| 9.425              | .57                      | 1.10     |          |                            |
| 9.55               | .57                      | 1.10     |          |                            |
| 11.50              | .57                      | 1.10     |          |                            |

MODIFICATIONS P. 5

DECISION NO. CA78-5123 (Con't)

Santa Barbara County  
(Vandenberg AFB)

Electricians  
Cable Splicers  
Remainder of County  
Electricians  
Cable Splicers  
Ventura County  
Electricians  
Cable Splicers

DECISION NO. 1472-1043 - MOD. #1  
(42 FR 51567 - November 3, 1978)  
State of Delaware

CHANGE:  
Line Construction:  
Linemen & Cable Splicers

Roofers:  
Composition, damp, & waterproof-  
ing  
Mechanic II (re-roofing)

Decision No. F178-1070 - MOD. #1  
(43 FR-36277)- August 25, 1978)  
Pinellas County, Florida

Change:  
Bricklayers  
Plasterers

| Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or Appr. Tr. |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation |                            |
| \$16.65            | 1.10                     | 3x1.50   |          | .03                        |
| 17.65              | 1.10                     | 3x1.50   |          | .03                        |
| 14.65              | 1.10                     | 3x1.50   |          | .03                        |
| 15.65              | 1.10                     | 3x1.50   |          | .03                        |
| 14.51              | 1.00                     | 3x1.55   |          | .02                        |
| 15.96              | 1.00                     | 3x1.55   |          | .02                        |
| 12.43              | .45                      | 3x       |          | 3/4 of 1x                  |
| 12.77              | 1.40                     | .95      |          |                            |
| 6.00               | 1.40                     | .95      |          |                            |
| 9.85               | .45                      | .50      |          | .10                        |
| 8.76               |                          |          |          |                            |

510-27-A1

DEPARTMENT OF LABOR

Employment Standards Administration  
MINIMUM WAGES FOR FEDERAL AND  
FEDERALLY ASSISTED CONSTRUCTION

General Wage Determination Decisions

General Wage Determination Decisions of the Secretary of Labor specify, in accordance with applicable law and on the basis of information available to the Department of Labor from a study of local wage conditions and from other sources, the basic hourly wage rates and fringe benefit payments which are determined to be prevailing for the described classes of laborers and mechanics employed in construction activity of the character and in the localities specified therein.

The determinations in these decisions of such prevailing rates and fringe benefits have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's order No. 4-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of part 1 of subtitle A of title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's orders 12-71 and 15-71 (36 FR 8755, 756). The prevailing rates and fringe benefits determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described herein.

Good cause is hereby found for not utilizing notice and public procedure hereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in effective date as prescribed in that section, because the necessity to issue construction industry wage determination frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General wage determination decisions are effective from their date of publication in the FEDERAL REGISTER without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision together with any modifications issued subsequent to its publication date shall be made a part of every contract

for performance of the described work within the geographic area indicated as required by an applicable Federal prevailing wage law and 29 CFR Part 5. The wage rates contained therein shall be the minimum paid under such contract by contractors and subcontractors on the work.

MODIFICATIONS AND SUPERSEDEAS DECISIONS TO GENERAL WAGE DETERMINATION DECISIONS

Modifications and supersedeas decisions to general wage determination decisions are based upon information obtained concerning changes in prevailing hourly wage rates and fringe benefit payments since the decisions were issued.

The determinations of prevailing rates and fringe benefits made in the modifications and supersedeas decisions have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of part 1 of subtitle A of title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's orders 13-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in foregoing general wage determination decisions, as hereby modified, and/or superseded shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged in contract work of the character and in the localities described therein.

Modifications and supersedeas decisions are effective from their date of publication in the FEDERAL REGISTER without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Any person, organization, or governmental agency having an interest in the wages determined as prevailing is encouraged to submit wage rate information for consideration by the Department. Further information and self-explanatory forms for the purpose of submitting this data may be obtained by writing to the U.S. Department of Labor, Employment Standards Administration, Office of Social Wage Standards, Division of Wage Determinations, Washington, D.C. 20210. The cause for not utilizing the rule-making procedures prescribed in 5

U.S.C. 553 has been set forth in the original General Wage Determination Decision.

MODIFICATION TO GENERAL WAGE DETERMINATION DECISIONS

The numbers of the decisions being modified and their dates of publication in the FEDERAL REGISTER are listed with each State.

|   |                |
|---|----------------|
| California:   |                |
| CA78-5006; CA73-5007  | Jan. 27, 1978  |
| CA78-5122   | Aug. 11, 1978  |
| CA78-5123   | Aug. 18, 1978  |
| Kansas:   |                |
| KM78-4007   | Feb. 3, 1978   |
| Louisiana:  |                |
| LA78-4099   | Oct. 6, 1978   |
| LA78-4113   | Oct. 13, 1978  |
| New Hampshire:  |                |
| NH78-2100; NH78-2101  | Oct. 6, 1978   |
| NH78-2164   | Dec. 1, 1978   |
| Pennsylvania:   |                |
| PA78-3005   | Feb. 24, 1978  |
| Rhode Island:   |                |
| RI78-3050; RI78-3051; RI78-3052   | July 21, 1978  |
| Texas:  |                |
| TX78-4017   | Mar. 10, 1978  |
| TX78-4034; TX78-4038  | Apr. 14, 1978  |
| TX78-4079   | Aug. 11, 1978  |
| TX78-4080   | Aug. 4, 1978   |
| TX78-4081   | Aug. 18, 1978  |
| TX78-4082; TX78-4083; TX78-4084; TX78-4085; TX78-4086; TX78-4087; TX78-4088 | Aug. 25, 1978  |
| TX78-4090; TX78-4091  | Sept. 15, 1978 |
| TX78-4095; TX78-4096  | Sept. 22, 1978 |
| TX78-4114   | Oct. 20, 1978  |
| TX78-4115   | Dec. 1, 1978   |

SUPERSEDEAS DECISIONS TO GENERAL WAGE DETERMINATION DECISIONS

The numbers of the decisions being superseded and their dates of publication in the FEDERAL REGISTER are listed with each State. Supersedeas Decision numbers are in parentheses following the numbers of the decisions being superseded.

|                       |               |
|-----------------------|---------------|
| District of Columbia: |               |
| DC78-3008(DC78-3098)  | Mar. 17, 1978 |
| Maryland:             |               |
| DC78-3008(DC78-3098)  | Mar. 17, 1978 |
| Pennsylvania:         |               |
| PA78-3103(PA78-3099)  | July 22, 1978 |
| Virginia:             |               |
| DC78-3008(DC78-3098)  | Mar. 17, 1978 |

CANCELLATION OF GENERAL WAGE DETERMINATION DECISIONS

General Wage Determination Decision No. MST7-1062 Lafayette County, Mississippi is cancelled. Agencies with building construction projects pending in this County should utilize the project determination procedure by submitting form SF-308. See Regulations Part 1 (29 CFR), Section 1.5. Contracts for which bids have been opened shall not be affected by this notice, and consistent with 29 CFR 1.7(b)(2), the incorporation of Decision No. MST7-1062 in contract specifications the opening of bids for which is within ten (10) days of this notice need not be affected.

Signed at Washington, D.C. this 8th day of December 1978.

DOROTHY P. COME,  
Assistant Administrator,  
Wage and Hour Division.

MODIFICATIONS P. 2

DECISION NO. MS78-4007 - Mod. #2  
(43 FR 4838 - February 3, 1978)  
Leavenworth, County, KS

| Basic Hourly Rates | Fringe Benefits Payments |          |          |  | Education and/or Appr. Inc. |
|--------------------|--------------------------|----------|----------|--|-----------------------------|
|                    | H & W                    | Pensions | Vacation |  |                             |
| \$12.67            | .60                      | 1.55     |          |  | .35                         |
| 12.00              | 1.15                     | 1.00     |          |  | .63                         |
| 11.025             | .80                      | .35      | 1.00     |  |                             |
| 10.925             | .65                      | .50      |          |  |                             |
| 10.80              | .70                      | 1.40     | 1.00     |  | .05                         |
| 11.98              | .40                      | 4.25%    |          |  | .10                         |
| 11.95              | .5%                      | 1.50     |          |  | .12                         |
| 12.98              | .67                      |          |          |  | .14                         |
| 12.50              |                          |          |          |  | .08                         |
| 13.14              | .85                      | 1.05     |          |  |                             |
| 10.80              | .75                      | .75      |          |  |                             |
| 9.96               | .75                      | .625     |          |  |                             |
| 11.93              | .75                      | 1.05     |          |  |                             |
| 11.61              | .5%                      | 4.25%    |          |  |                             |
| \$11.05            | .80                      | 1.00     |          |  | .02                         |
| 12.05              | 1.15                     | 3%       |          |  | 1%                          |
| 12.55              | 1.15                     | 3%       |          |  | 1%                          |
| 12.05              | 1.15                     | 3%       |          |  | 1%                          |
| 12.55              | 1.15                     | 3%       |          |  | 1%                          |
| 11.05              | .80                      | 1.00     |          |  | .02                         |
| 12.05              | 1.15                     | 3%       |          |  | 1%                          |
| 12.55              | 1.15                     | 3%       |          |  | 1%                          |

DECISION #1A78-4099 - Mod. #5  
(43 FR 46449 - October 6, 1978)  
Statewide Louisiana

DECISION #1A78-4111 - Mod. #4  
(43 FR 47429 - October 13, 1978)  
Bossier, Caddo & Calcasieu  
Parishes, Louisiana

MODIFICATIONS P. 1

DECISION NO. CA78-5006 - Mod. #2  
(43 FR 3059 - January 27, 1978)  
San Diego County, California

| Basic Hourly Rates | Fringe Benefits Payments |          |          |  | Education and/or Appr. Inc. |
|--------------------|--------------------------|----------|----------|--|-----------------------------|
|                    | H & W                    | Pensions | Vacation |  |                             |
| \$10.62            | .77                      | 2.0%     |          |  |                             |
| 12.10              | .95                      | 1.30     |          |  |                             |
| 13.12              | 1.0%                     | 1.6%     | 13%      |  | 2%                          |
| \$10.62            | .77                      | 2.0%     |          |  |                             |
| 12.10              | .95                      | 1.30     |          |  |                             |
| 13.12              | 1.0%                     | 1.6%     | 13%      |  | 2%                          |
| \$10.62            | .77                      | 2.0%     |          |  |                             |
| 12.10              | .95                      | 1.30     |          |  |                             |
| 13.12              | 1.0%                     | 1.6%     | 13%      |  | 2%                          |

Change:  
Brick, Block and Stonemasons'  
Tenders  
Glaziers  
Plumbers, Steamfitters

DECISION NO. CA78-5007 - Mod. #2  
(43 FR 3063 - January 27, 1978)  
San Diego County, California

Change:  
Brick, Block and Stonemasons'  
Tenders  
Glaziers  
Plumbers, Steamfitters

DECISION NO. CA78-5122 - Mod. #2  
(43 FR 35835 - August 11, 1978)  
Imperial, Kern, Los Angeles,  
Orange, Riverside, San  
Bernardino, San Luis Obispo,  
Santa Barbara and Ventura  
Counties, California

Change:  
Plumbers, Steamfitters  
Imperial, Los Angeles, Orange,  
Riverside, San Bernardino,  
San Luis Obispo, Santa Barbara  
and Ventura Counties, California

DECISION NO. CA78-5123 - Mod. #1  
(43 FR 35835 - August 11, 1978)  
Imperial, Kern, Los Angeles,  
Orange, Riverside, San  
Bernardino, San Luis Obispo,  
Santa Barbara and Ventura  
Counties, California

Change:  
Plumbers, Steamfitters  
Imperial, Los Angeles, Orange,  
Kern, Riverside, San Bernardino,  
San Luis Obispo, Santa Barbara  
and Ventura Counties, California

[4510-27-C]

DECISION NO. CAL-3122 (CONT'D)

LABORERS (Cont'd)

Group 3: Asphalt Shovelers Cement Dumper (on 1 yard or larger mixer and handling bulk cement); Canspool digger and Installer (Chuckenders) Chute Man, pouring concrete, the handling of the chute from ready-mix trucks, such as walls, slabs, decks, floors, foundations, footings, curbs, gutters and sidewalks; Concrete Curer--Impervious Membrane and Form Officer; Cutting torch operator (demolition); Fine Grader, highways and street paving, air-port, runways, and similar type heavy construction; Gas, oil and/or water pipeline wrapper--pot tender and form man; Guinea Chaser; Headboard man--Asphalt Laborer, packing rod steel and pans; Power Broom Sweeper (small); Riprap Stoner; placing stone or wet packed concrete; Moto Scraper and Tiller; Sandblasters (spot tender); Septic Tank Digger and Installer (leadman); Tank Soiler and Cleaner; Tree Climber, faller, chain saw operator, Pittsburgh Chipper and similar type Brush Shredders; Underground Laborer, including Calson Bellows

Group 3: Asphalt Paver, Lutean, Ironer and Asphalt Spreader Boxes (all types); Buggymobile Man; Concrete Core Cutter, Grinder or Sander; Concrete Cutting Torch; Concrete Saw Man, cutting, scoring old or new concrete; Grilles; Jackhammer, 3-1/2 ft. drill steel or longer; Dry Pak-It Machine; Gas, oil and/or Water Pipeline Wrapper--6" pipe and over by any method, inside and out; Hydro Seeder and similar type; Impact Wrench, multi-plate; Kettlemen, Form-a and iron applying asphalt, lay-koid, arcwote, brushing or handling of such materials ("applying" means applying, dipping, line chaulk and similar type materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, Vibrating Machines, Pavement Breakers, Air Blasting, Cows-slungs, and similar mechanical tools not separately classified herein; Pipe-layer's Backup Man, coating, grouting, making of joints, sealing, caulking, dispersing and including rubber gasket joints, pointing and any and all other various Rock Slinger; Rotary Scarifier or Multiple Head Concrete Chipping Scarifier; Steel Headboard Man and Guideline Setter; Tamper, Harlo, Mucker and similar types; Trenching Machine, hand propelled

Group 4: Criller, Shorer, Lagger, Sheeting and Trench Hoisting, hand-guided Lagger; Hammer, Head Rock Slinger; Laser Beam; Overcast Concrete Vibrator; Operator, 30 lbs. and over; Pipelayer, including water, sewage, solid, gas or air prefabricated pipehole installer; Subdriller (muscular); water blasting; including in connection with laborers' work

Group 5: Blasters Powderman--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 jackhammers, whether core, diamond, wagon, track, multiple unit, and any and all types of mechanical drills

DECISION NO. CA75-3121 - No. 84 (13 FR 36839 - August 18, 1976)

Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties, California

Changes:  
 Laborers  
 Group 1 2.45  
 Group 2 2.45  
 Group 3 2.45  
 Group 4 2.45  
 Group 5 2.45  
 Laborers (united) 2.45  
 Hazzleton and Redman 2.45  
 Gunson 2.45  
 Rubenudman 2.45  
 Add:  
 To Original Laborers Schedule LABORERS  
 Vandenberg Air Force Base, Point Arguello and Camp Roberts  
 Group 1 2.45  
 Group 2 2.45  
 Group 3 2.45  
 Group 4 2.45  
 Group 5 2.45

| Basic Hourly Rate | Filings Benefits Payments |          |         | Education and/or App. fr. |
|-------------------|---------------------------|----------|---------|---------------------------|
|                   | H & W                     | Features | Vocaton |                           |
| 8.48              | 1.15                      | 2.45     | .80     | .10                       |
| 8.68              | 1.15                      | 2.45     | .80     | .10                       |
| 8.83              | 1.15                      | 2.45     | .80     | .10                       |
| 8.98              | 1.15                      | 2.45     | .80     | .10                       |
| 9.13              | 1.15                      | 2.45     | .80     | .10                       |
| 10.22             | 1.15                      | 2.45     | .80     | .10                       |
| 9.72              | 1.15                      | 2.45     | .80     | .10                       |
| 8.76              | 1.15                      | 2.45     | .80     | .10                       |
| 9.73              | 1.15                      | 2.45     | .80     | .10                       |
| 9.88              | 1.15                      | 2.45     | .80     | .10                       |
| 10.08             | 1.15                      | 2.45     | .80     | .10                       |
| 10.23             | 1.15                      | 2.45     | .80     | .10                       |
| 10.38             | 1.15                      | 2.45     | .80     | .10                       |

MODIFICATIONS P. 2

| DECISION NO., COUNTY, MOD. #<br>(1) FR 28444 - July 7, 1978  | Basic Hourly Rate | Fringe Benefits Payments |                  |            | Education and/or App. Fr. |
|--|-------------------|--------------------------|------------------|------------|---------------------------|
|  |                   | H & W                    | Pensions         | Vacation   |                           |
| Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, Eldorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madra, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Madera, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Sierra, Siskiyou, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties, California         | \$15.16<br>17.06  | 1.30<br>1.30             | 341.65<br>341.65 |            | .069<br>.069              |
| <b>CHANGES:</b><br><b>ELECTRICIANS:</b><br>Alameda County<br>Electricians<br>Cable Splicers  |                   |                          |                  |            |                           |
| DECISION NO., COUNTY, MOD. #<br>(1) FR 36839 - August 18, 1978   |                   |                          |                  |            |                           |
| Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties, California  | \$12.37<br>12.87  | 1.23<br>1.23             | 1.38<br>1.38     | .75<br>.75 | .07<br>.07                |
| <b>CHANGES:</b><br><b>PAINTERS:</b><br>Imperial, Orange, Riverside, Los Angeles (Pomona Area), San Bernardino (excluding Western portion)<br>Brush, Paint Burners, Spray Paperhangers, Spray (swing stage)<br>Brush (swing stage) Spray (swing stage)<br>Steeplejack<br>Iron, Steel and bridge (ground work and spray ground work)<br>Iron, Steel and Bridge (swing stage and spray swing stage) |                   |                          |                  |            |                           |

MODIFICATIONS P. 3

| DECISION #/FR #/DATE - MOD. #  | Basic Hourly Rate | Fringe Benefits Payments |          |          | Education and/or App. Fr. |
|--|-------------------|--------------------------|----------|----------|---------------------------|
|  |                   | H & W                    | Pensions | Vacation |                           |
| DECISION #/FR #/DATE - MOD. #<br>(1) FR 4749 - January 30, 1976<br>Bay, Eschamba, Gulf, Unalaska, Santa Rosa, and Walker Counties, Florida   |                   |                          |          |          |                           |
| <b>CHANGES:</b><br>Mod. #2 as published on February 16, 1976 in 44 FR 10213 to read: Mod. #3   |                   |                          |          |          |                           |
| DECISION No. FL78-1053 - Mod. #3<br>(4) FR 35809 - August 11, 1978<br>Brevard and Volusia (excluding Cape Canaveral, Kennedy Space Flight Center, Patrick Air Force Base, and Helabar Radar Site), Lake, Orange, Osceola, Polk, and Seminole Counties, Florida | \$6.79<br>6.44    |                          |          |          |                           |
| <b>CHANGES:</b><br>Carpenters<br>Concrete Masons   |                   |                          |          |          |                           |
| DECISION #/FR #/DATE - MOD. #<br>(4) FR 38277 - August 25, 1978<br>Pinellas County, Florida  |                   |                          |          |          |                           |
| <b>CHANGES:</b><br>Sprinkler Fitters   | \$10.61           | .75                      | 1.05     |          | .10                       |

(Dorothy)

[4510-27-M]

DEPARTMENT OF LABOR

Employment Standards Administration, Wage and Hour Division

MINIMUM WAGES FOR FEDERAL AND FEDERALLY ASSISTED CONSTRUCTION

General Wage Determination Decisions

General wage determination decisions of the Secretary of Labor specify, in accordance with applicable law and on the basis of information available to the Department of Labor from its study of local wage conditions and from other sources, the basic hourly wage rates and fringe benefit payments which are determined to be prevailing for the described classes of laborers and mechanics employed in construction activity of the character and in the localities specified therein.

The determinations in these decisions of such prevailing rates and fringe benefits have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 12-71 and 13-71 (36 FR 3755, 3756). The prevailing rates and fringe benefits determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

Good cause is hereby found for not utilizing notice and public procedure thereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in effective date as prescribed in that section, because the necessity to issue construction industry wage determination frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General Wage Determination Decisions are effective from their date of publication in the FEDERAL REGISTER without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision together with any modifications issued subsequent to its publication date shall be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable Federal prevailing wage law and 29 CFR, Part 5. The wage rates contained therein

shall be the minimum paid under such contract by contractors and subcontractors on the work.

MODIFICATIONS AND SUPERSEDES DECISIONS TO GENERAL WAGE DETERMINATION DECISIONS

Modifications and supersedeas decisions to general wage determination decisions are based upon information obtained concerning changes in prevailing hourly wage rates and fringe benefit payments since the decisions were issued.

The determinations of prevailing rates and fringe benefits made in the modifications and supersedeas decisions have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act and pursuant to the provisions of part 1 of subtitle A of title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's orders 13-71 and 15-71 (36 FR 3755, 3756). The prevailing rates and fringe benefits determined in foregoing general wage determination decisions, as hereby modified, and/or superseded shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged in contract work of the character and in the localities described therein.

Modifications and supersedeas decisions are effective from their date of publication in the FEDERAL REGISTER without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Any person, organization, or governmental agency having an interest in the wages determined as prevailing is encouraged to submit wage rate information for consideration by the Department. Further information and self-explanatory forms for the purpose of submitting this data may be obtained by writing to the U.S. Department of Labor, Employment Standards Administration, Office of Government Contract Wage Standards, Division of Wage Determinations, Washington, D.C. 20210. The cause for not utilizing the rulemaking procedures prescribed in 5 U.S.C. 553 has been set forth in the original General Wage Determination Decision.

NEW GENERAL WAGE DETERMINATION DECISIONS

South Carolina—SCT3-1042

MODIFICATIONS TO GENERAL WAGE DETERMINATION DECISIONS

The numbers of the decisions being modified and their dates of publica-

tion in the FEDERAL REGISTER are listed with each State.

Table listing decisions by state: Alaska (AK78-3103), Arizona (AZ78-4023), California (CA78-3107, CA78-3123), Florida (FL78-1021, FL78-1045, FL78-1070), Illinois (IL78-2117, IL78-2122, IL78-2125), Iowa (IA78-4109, IA78-4112), Montana (MT78-3101), Nevada (NV78-3124), North Dakota (ND78-3113), Pennsylvania (PA78-3014, PA78-3018, PA78-3037, PA78-3043), South Carolina (SCT3-1040, SCT3-1025), Texas (TX78-4084, TX78-4092, TX78-4091, TX78-4092, TX78-4114, TX78-4115, TX78-4092, TX78-4094, TX78-4092, TX78-4092, TX78-4011), West Virginia (WV78-3018), Wisconsin (WI78-2102, WI78-2110, WI78-2116).

SUPERSEDES DECISIONS TO GENERAL WAGE DETERMINATION DECISIONS

The numbers of the decisions being superseded and their dates of publication in the FEDERAL REGISTER are listed with each State. Supersedeas Decision numbers are in parentheses following the numbers of the decisions being superseded.

Table listing supersedeas decisions by state: Alabama (AL78-1093, AL78-1048), Arizona (AZ78-3115, AZ78-3110), Guam (GU78-3127, GU78-3111), Massachusetts (MA78-2082, MA78-2008), North Carolina (NC78-1095, NC78-1037), Pennsylvania (PA77-3129, PA78-3005, PA77-3125, PA78-3004), South Carolina (SCT3-1038, SCT3-1047), South Dakota (SD78-3101, SD78-3112), Texas (TX78-4038, TX78-4037, TX78-4039, TX78-4041, TX78-4080, TX78-4031, TX78-4081, TX78-4031, TX78-4084, TX78-4038, TX78-4094, TX78-4038, TX78-4094, TX78-4039, TX78-4087, TX78-4082, TX78-4084, TX78-4050), Wyoming (WY78-1014, WY78-3102, WY78-3015, WY78-3109).

CANCELLATION OF GENERAL WAGE DETERMINATION DECISIONS

None.

Signed at Washington, D.C. this 9th day of March 1979.

DOROTHY P. COMZ, Assistant Administrator, Wage and Hour Division.

## DEPARTMENT OF LABOR

## Employment Standards Administration

## Minimum Wages for Federal and Federally Assisted Construction; General Wage Determination Decisions

General wage determination decisions of the Secretary of Labor specify, in accordance with applicable law and on the basis of information available to the Department of Labor from its study of local wage conditions and from other sources, the basic hourly wage rates and fringe benefit payments which are determined to be prevailing for the described classes of laborers and mechanics employed in construction activity of the character and in the localities specified therein.

The determinations in these decisions of such prevailing rates and fringe benefits have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (48 Stat. 1494, as amended, 40 U.S.C. 275a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 308 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 12-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

Good cause is hereby found for not utilizing notice and public procedure thereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in effective date as prescribed in that section, because the necessity to issue construction industry wage determination frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General wage determination decisions effective from their date of

publication in the Federal Register without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision together with any modifications issued subsequent to its publication date shall be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable Federal prevailing wage law and 29 CFR, Part 5. The wage rates contained therein shall be the minimum paid under such contract by contractors and subcontractors on the work.

## Modifications and Supersedeas Decisions to General Wage Determination Decisions

Modifications and Supersedeas Decisions to General Wage Determination Decisions are based upon information obtained concerning changes in prevailing hourly wage rates and fringe benefit payments since the decisions were issued.

The determinations of prevailing rates and fringe benefits made in the Modifications and Supersedeas Decisions have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (48 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 13-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in foregoing General Wage Determination Decisions, as hereby modified, and/or superseded shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged in contract work of the character and in the localities described therein.

Modifications and Supersedeas Decisions are effective from their date of publication in the Federal Register without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Any person, organization, or governmental agency having an interest

in the wages determined as prevailing is encouraged to submit wage rate information for consideration by the Department. Further information and self-explanatory forms for the purpose of submitting this data may be obtained by writing to the U.S. Department of Labor, Employment Standards Administration, Office of Government Contract Wage Standards, Division of Wage Determinations, Washington, D.C. 20210. The cause for not utilizing the rulemaking procedures prescribed in 5 U.S.C. 553 has been set forth in the original General Wage Determination Decision.

## New General Wage Determination Decisions

Mississippi \_\_\_\_\_ MS79-1077  
Tennessee \_\_\_\_\_ TN79-1078

## Modifications to General Wage Determination Decisions

The numbers of the decisions being modified and their dates of publication in the Federal Register are listed with each State.

|                                 |       |               |
|---------------------------------|-------|---------------|
| California:                     |       |               |
| CA78-5008; CA78-5007            | _____ | Jan. 27, 1978 |
| CA78-5106; CA78-5107            | _____ | July 7, 1978  |
| CA78-5122                       | _____ | Aug. 11, 1978 |
| CA78-5123                       | _____ | Aug. 18, 1978 |
| Connecticut:                    |       |               |
| CT78-2067                       | _____ | Apr. 25, 1978 |
| CT78-2010; CT78-2011            | _____ | Apr. 6, 1978  |
| Florida:                        |       |               |
| FL78-1068                       | _____ | Apr. 12, 1978 |
| Ohio:                           |       |               |
| OH78-2157                       | _____ | Nov. 24, 1977 |
| Pennsylvania:                   |       |               |
| PA78-3054                       | _____ | Aug. 11, 1978 |
| Rhode Island:                   |       |               |
| RI78-3050; RI78-3051; RI78-3052 | _____ | July 21, 1978 |

## Supersedeas Decisions to General Wage Determination Decisions

The numbers of the decisions being superseded and their dates of publication in the Federal Register are listed with each State. Supersedeas Decision numbers are in parentheses following the numbers of the decisions being superseded.

Pennsylvania:  
PA77-3122(PA78-3008) \_\_\_\_\_ Sept. 8, 1977

## Cancellation of General Wage Determination Decisions:

None.

Signed at Washington, D.C. this 20th day of April 1979.

Dorothy P. Come,  
Assistant Administrator, Wage and Hour Division.  
BILLING CODE 4510-27-48

MODIFICATIONS P. 3

| DECISION NO. CA78-3107 - Mod. #5<br>(43 FR 29444 - July 7, 1978)<br>Alameda, Alpine, Amador,<br>Butte, Calaveras, Colusa, Con<br>Contra Costa, Del Norte, El<br>Dorado, Fresno, Glenn,<br>Humboldt, Kings, Lake, Lassen,<br>Napa, Marin, Meriposa,<br>Mendocino, Placer, Plumas,<br>Sacramento, San Benito, San<br>Francisco, San Joaquin, San<br>Mateo, Santa Clara, Santa Cruz,<br>Shasta, Sierra, Siskiyou,<br>Solano, Sonoma, Stanislaus,<br>Butter, Tehama, Trinity,<br>Tulare, Tuolumne, Yolo and<br>Yuba Counties, California | Basic<br>Hourly<br>Rates | Fringe Benefits Payments |          |          |                                  |
|--|--------------------------|--------------------------|----------|----------|----------------------------------|
|  |                          | H & W                    | Pensions | Vacation | Education<br>and/or<br>Appr. Tr. |
| Chanel<br>Painters:<br>Alpine, Amador, Calaveras<br>and San Joaquin Counties<br>Brush  | 10.56                    | 1.00                     | 2.34     | 1.11     |                                  |
| Spray; Sheetrock Taper;<br>Swing Stage; Scaffold;<br>Sandblaster Structural<br>Steel   | 10.96                    | 1.00                     | 2.34     | 1.11     |                                  |
| Fresno, Kings, Napa and<br>Tulare Counties<br>Brush; Tapers  | 12.51                    | .61                      | .20      |          |                                  |
| Spray; Structural Steel  | 13.01                    | .61                      | .20      |          |                                  |
| Monterey, San Benito, San<br>Mateo, Santa Clara and<br>Santa Cruz Counties (ex-<br>cluding portions of Cos.<br>in the Lake Area).<br>Brush   | 13.29                    | 1.20                     | 1.75     | .40      | .06                              |
| Spray  | 13.79                    | 1.20                     | 1.75     | .40      | .06                              |
| Tapers   | 13.86                    | 1.20                     | 1.75     | .40      | .06                              |
| Lake, Marin, Mendocino, San<br>Francisco and Sonoma Cos.<br>Brush  | 13.06                    | 1.20                     | 1.75     | .80      | .06                              |
| Spray  | 13.56                    | 1.20                     | 1.75     | .80      | .06                              |
| Tapers   | 13.88                    | 1.20                     | 1.75     | .80      | .06                              |

MODIFICATIONS P. 4

DECISION NO. CA78-3107 (Cont'd)

| DECISION NO. CA78-3107 (Cont'd)   | Basic<br>Hourly<br>Rates | Fringe Benefits Payments |          |          |                                  |
|---|--------------------------|--------------------------|----------|----------|----------------------------------|
|   |                          | H & W                    | Pensions | Vacation | Education<br>and/or<br>Appr. Tr. |
| Butte, Colusa, Glenn,<br>Lassen, (excluding the<br>extreme SE Corner), Modoc,<br>Plumas, Shasta, Siskiyou,<br>Butter, Tehama, Trinity,<br>and Yuba Counties<br>Brush; Pot Tenders;<br>Rollers | 69.35                    | .85                      | .70      |          |                                  |
| Spray; Sandblaster;<br>Structural Steel; Swing<br>Stage; Tapers   | 9.60                     | .85                      | .70      |          |                                  |
| Alameda, Contra Costa, El<br>Dorado, Napa, Nevada,<br>Placer, and Yolo Counties<br>(excluding portions of<br>Counties in the Lake Tahoe<br>Area)<br>Brush                                     | 13.29                    | 1.20                     | 1.75     | .80      | .06                              |
| Spray   | 13.79                    | 1.20                     | 1.75     | .80      | .06                              |
| Tapers  | 14.09                    | 1.20                     | 1.75     | .80      | .06                              |
| Del Norte and Humboldt Cos.<br>Brush  | 10.03                    | .85                      | 1.05     | .80      |                                  |
| Parking Lot Striping Work<br>and/or Highway Markers;<br>Fresno, Kings and Tulare<br>Counties;<br>Traffic delineating device<br>applicator   | 10.12                    | .85                      | .45      |          |                                  |
| Wheel stop installer;<br>Traffic surface sand-<br>blaster; Striper  | 9.73                     | .85                      | .45      |          |                                  |
| Helper (wheel stop in-<br>staller, traffic surface<br>sandblaster, striper)   | 7.83                     | .85                      | .45      |          |                                  |
| Slurry Seal Operations<br>Mixer Operator  | 9.73                     | .85                      | .45      |          |                                  |
| Squeegee Man  | 8.54                     | .85                      | .45      |          |                                  |
| Applicator Operator   | 8.54                     | .85                      | .45      |          |                                  |
| Shuttlemen  | 8.54                     | .85                      | .45      |          |                                  |
| Top Man   | 7.00                     | .85                      | .45      |          |                                  |



MODIFICATIONS P. 6

DECISION NO. CAYB-5172 - Mod. #5  
 (43 FR 35815 - August 11, 1978)  
 Imperial, Kern, Los Angeles,  
 Orange, Riverside, San  
 Bernardino, San Luis Obispo,  
 Santa Barbara and Ventura  
 Counties, California

| Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or App. Tr. |
|--------------------|--------------------------|----------|----------|---------------------------|
|                    | H & W                    | Pensions | Vacation |                           |
| \$12.37            | 1.23                     | 1.38     | .75      | .07                       |
| 12.87              | 1.23                     | 1.38     | .75      | .07                       |
| 12.62              | 1.23                     | 1.38     | .75      | .07                       |
| 14.02              | 1.23                     | 1.38     | .75      | .07                       |
| 13.12              | 1.23                     | 1.38     | .75      | .07                       |
| 13.37              | 1.23                     | 1.38     | .75      | .07                       |
| 12.41              | .71                      | .80      | .60      | .02                       |
| 12.53              | .71                      | .80      | .60      | .02                       |
| 13.35              | .71                      | .80      | .60      | .02                       |
| 12.66              | .71                      | .80      | .60      | .02                       |
| 12.91              | .71                      | .80      | .60      | .02                       |
| 9.64               | .70                      | .80      | .60      | .03                       |
| 10.16              | .70                      | .90      | .90      | .03                       |
| 10.16              | .70                      | .90      | .90      | .03                       |
| \$12.35            | 1.07                     | 1.30     | 1.30     | .03                       |
| 12.60              | 1.07                     | 1.30     | 1.30     | .03                       |
| 12.15              | 1.07                     | 1.30     | 1.30     | .03                       |
| 13.00              | 1.07                     | 1.30     | 1.30     | .03                       |

Chicago  
 PAINTERS:  
 Imperial, Orange, Riverside,  
 Los Angeles (Pomona Area),  
 San Bernardino (excluding  
 Western portion);  
 Brush; Paint Movers; Spray  
 Paperhangers; Spray (swing  
 stage)  
 Brush (swing stage)  
 Steepjack  
 Iron, Steel and Spray (ground  
 work)  
 Iron, Steel and Spray (swing  
 stage)  
 Kern (Lancaster, Mojave, Pal-  
 mdale, China Lake Naval Ord-  
 nance Test Station and Edwards  
 AFB), Los Angeles (except  
 Pomona Area), San Bernardino  
 (west of a line North of Trono  
 including China Lake Area,  
 Johannesburg, Boron, South  
 including the Wrightwood  
 Area);  
 Brush  
 Paint burner  
 Tapers  
 Brush swing stage (13 stories;  
 or less); Paperhangers;  
 Sandblasters; Spray Painter  
 Spray, Sandblaster swing  
 stage (13 stories or less),  
 Paste Haching; Special  
 coating spray  
 Kern County (Hornindor of Co.)  
 Brush  
 Brush or roller, swing stage  
 Paperhangers, Taping joint  
 Sheet Rock  
 Spray, sandblasters  
 San Luis Obispo, Santa Barbara  
 and Ventura Counties;  
 Brush; Pot Tendar  
 Paperhangers; Paste Machine  
 Operators; Iron and Steel  
 Spray; Tapers; Sandblaster  
 Sign Painter

MODIFICATIONS P. 5

DECISION NO. CAYB-5107 (Cont'd)

| Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or App. Tr. |
|--------------------|--------------------------|----------|----------|---------------------------|
|                    | H & W                    | Pensions | Vacation |                           |
| \$10.12            | .85                      | .45      | b        |                           |
| 8.82               | .85                      | .45      | b        |                           |
| 11.22              | .85                      | .45      | b        |                           |
| 8.82               | .85                      | .45      | b        |                           |
| 10.12              | .85                      | .45      | b        |                           |
| 8.54               | .85                      | .45      | b        |                           |
| 8.54               | .85                      | .45      | b        |                           |
| 8.54               | .85                      | .45      | b        |                           |
| 7.00               | .85                      | .45      | b        |                           |
| 7.80               | .60                      | .20      | .80      |                           |

Remaining Counties  
 Traffic delineating device  
 applicators; wheel stop in-  
 stallers; Traffic surface  
 sandblaster  
 Helper (traffic delineating  
 device applicators; wheel  
 stop installers); Traffic  
 surface sandblaster)  
 Stripper  
 Helper (stripper)  
 Slurry Seal Operator  
 Mixer Operator  
 Squeegee Men  
 Applicator Operator  
 Shuttlemen  
 Top Men  
 Remaining Counties  
 Footlights  
 a. Employer contributes \$.30  
 per hour to Holiday Fund  
 plus \$.20 per hour to  
 Vacation Fund for the first  
 year of employment; 1 year  
 but less than 3 years \$.40  
 per hour to Vacation Fund;  
 3 years but less than 10  
 years \$.66 per hour to  
 Vacation Fund; over 10 yrs.  
 \$.80 per hour to Vacation  
 Fund.  
 Omit:  
 Del Horta and Hunsoldt Coo.  
 Spray; Sandblasters;  
 Structural Steel; Swing  
 Stage; Tapers; Paperhangers

MODIFICATIONS P. U

| Basic Hourly Rates  | Fringe Benefits Payments |          |          | Education and/or Appr. Tr. |
|---|--------------------------|----------|----------|----------------------------|
|   | H & W                    | Pensions | Vacation |                            |
| \$11.50   | 1.00                     | 314.52   |          | .12                        |
| <p>DECISION NO. CT75-2267 - MOD #3<br/>(40 FR 18304 - April 25, 1975)<br/>Hartford County, Connecticut</p> <p>CHANGE!<br/>RESIDENTIAL CONSTRUCTION!<br/>ELECTRICIANS!<br/>Berlin, Bristol, New Britain<br/>Hartford, Plainville,<br/>Southington</p>  |                          |          |          |                            |
| \$10.70   | .90                      | .65      |          | .05                        |
| 10.75   | .90                      | .65      |          | .05                        |
| 10.50   | .90                      | .65      |          | .03                        |
| 11.50   | 1.00                     | 314.52   |          | .12                        |
| <p>DECISION NO. CT79-2010 - MOD #1<br/>(44 FR 20913 - April 6, 1979)<br/>Fairfield, Litchfield and<br/>Windham Counties, Connecticut</p> <p>CHANGE!<br/>CARPENTERS; MILLWRIGHTS; PILE-<br/>DRIVERS; SOFT FLOOR LAYERS<br/>(Building Construction)<br/>Fairfield Co.; Bridgeport,<br/>Easton, Fairfield, Monroe,<br/>Shelton, Stratford, Trumbull,<br/>Weston, &amp; Westport<br/>Litchfield Co.; Winstons,<br/>Plymouth, Thomaston, &amp; Water-<br/>town</p> <p>CARPENTERS!<br/>(Heavy &amp; Highway Construction);<br/>Windham Co.!</p> <p>ELECTRICIANS!<br/>Litchfield Co.; Plymouth<br/>Building Construction</p> <p>FOOTNOTES!<br/>a. \$50.00 per year</p> |                          |          |          |                            |
| 10.10   | .90                      | .65      |          | .05                        |
| 10.55   | .85                      | .65      |          | .05                        |
| <p>CHANGE!<br/>CARPENTERS!<br/>(Building Construction);<br/>Fairfield Co.; Greenwich.<br/>CARPENTERS!<br/>(Heavy &amp; Highway Construction);<br/>Fairfield Co.; Greenwich</p>  |                          |          |          |                            |

MODIFICATIONS P. 7

| Basic Hourly Rates   | Fringe Benefits Payments |          |          | Education and/or Appr. Tr. |
|--|--------------------------|----------|----------|----------------------------|
|  | H & W                    | Pensions | Vacation |                            |
| \$12.41  | .71                      | .80      | .60      | .02                        |
| 12.53  | .71                      | .80      | .60      | .02                        |
| 13.35  | .71                      | .80      | .60      | .02                        |
| 12.66  | .71                      | .80      | .60      | .02                        |
| 12.78  | .71                      | .80      | .60      | .02                        |
| 12.81  | .71                      | .80      | .60      | .02                        |
| 12.93  | .71                      | .80      | .60      | .02                        |
| 13.03  | .71                      | .80      | .60      | .02                        |
| 12.91  | .71                      | .80      | .60      | .02                        |
| 13.65  | .71                      | .80      | .60      | .02                        |
| 9.68   | .70                      | .90      |          | .03                        |
| 10.28  | .70                      | .90      |          | .03                        |
| 10.18  | .70                      | .90      |          | .03                        |
| 11.18  | .70                      | .90      |          | .03                        |
| 112.35   | 1.07                     | 1.30     |          | .03                        |
| 12.60  | 1.07                     | 1.30     |          | .03                        |
| 12.85  | 1.07                     | 1.30     |          | .03                        |
| 13.00  | 1.07                     | 1.30     |          | .03                        |
| 13.35  | 1.07                     | 1.30     |          | .03                        |
| <p>CHANGE!<br/>PAINTERS!<br/>Inyo, Kern (Lancaster, Mojave,<br/>Palmdale, China Lake Naval<br/>Ordnance Test Station and<br/>Edwards AFB), Los Angeles<br/>(except Pomona Area), Mono,<br/>San Bernardino (west of a<br/>line north of Tromp including<br/>China Lake Area, Johannesburg<br/>Boron, South including the<br/>Wrightwood Area)</p> <p>Brush<br/>Structural Steel and bridges<br/>Paint burner<br/>Tapers<br/>Brush Suing Stage (13 stories<br/>or less); Paperhangers;<br/>sandblasters; Spray Painter<br/>Brush Suing Stage (over 13<br/>stories)<br/>Structural steel and bridges,<br/>swing (13 stories or less)<br/>Structural steel and bridges,<br/>swing (excess of 13 stories)<br/>Spray Painter; Sandblaster,<br/>swing stage (excess of 13<br/>stories)<br/>Spray Painter; sandblaster,<br/>swing stage (13 stories or<br/>less); Paste machine;<br/>special coating spray<br/>Steeplejack<br/>Kern County (remainder of<br/>County);<br/>Brush<br/>Brush or roller, swing<br/>stage; Paperhangers;<br/>Taping joint sheet rock<br/>Spray sandblasters<br/>Steeplejack</p> <p>San Luis Obispo, Santa Barbara<br/>and Ventura Counties;<br/>Brush; Pot Tender<br/>Paperhangers; Paste Machine<br/>operators; Iron and Steel<br/>Spray; Taper; Sandblasters<br/>Sign Painter<br/>Steeplejack</p> |                          |          |          |                            |

DECISION NO. A78-5123 - Mod. #6  
(43 FR 50339 - August 10, 1978)  
Imperial, Kern, Los Angeles,  
Orange, Riverside, San  
Bernardino, San Luis Obispo,  
Santa Barbara and Ventura  
Counties, California

## DEPARTMENT OF LABOR

## Employment Standards Administration

## Minimum Wages for Federal and Federally Assisted Construction; General Wage Determination Decisions

General Wage Determination Decisions of the Secretary of Labor specify, in accordance with applicable law and on the basis of information available to the Department of Labor from its study of local wage conditions and from other sources, the basic hourly wage rates and fringe benefit payments which are determined to be prevailing for the described classes of laborers and mechanics employed on construction projects of the character and in the localities specified therein.

The determinations in these decisions of such prevailing rates and fringe benefits have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 12-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

Good cause is hereby found for not utilizing notice and public procedure thereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in effective date as prescribed in that section, because the necessity to issue construction industry wage determination frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General Wage Determination Decisions are effective from their date of publication in the Federal Register without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision together with any modifications issued subsequent to its publication date shall be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable Federal prevailing wage law and 29 CFR, Part 5. The wage rates contained therein shall be the minimum paid under such contract by contractors and subcontractors on the work.

## Modifications and Supersedeas Decisions to General Wage Determination Decisions

Modifications and Supersedeas Decisions to General Wage Determination Decisions are based upon information obtained concerning changes in prevailing hourly wage rates and fringe benefit payments since the decisions were issued.

The determinations of prevailing rates and fringe benefits made in the Modifications and Supersedeas Decisions have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act and pursuant to the provisions of Part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 13-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in foregoing General Wage Determination Decisions, as hereby modified, and/or superseded shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged in contract work of the character and in the localities described therein.

Modifications and Supersedeas Decisions are effective from their date of publication in the Federal Register

without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Any person, organization, or governmental agency having an interest in the wages determined as prevailing is encouraged to submit wage rate information for consideration by the Department. Further information and self-explanatory forms for the purpose of submitting this data may be obtained by writing to the U.S. Department of Labor, Employment Standards Administration, Wage and Hour Division, Office of Government Contract Wage Standards, Division of Construction Wage Determinations, Washington, D.C. 20210. The cause for not utilizing the rulemaking procedures prescribed in 5 U.S.C. 553 has been set forth in the original General Wage Determination Decision.

## New General Wage Determination Decisions

Maryland—MD79-3021  
New York—NY79-3021

## Modifications to General Wage Determination Decisions

The numbers of the decisions being modified and their dates of publication in the Federal Register are listed with each State.

|                        |       |               |
|------------------------|-------|---------------|
| Alabama—               |       |               |
| AL79-1043              | _____ | Mar. 9, 1979  |
| AL79-1068              | _____ | Apr. 13, 1979 |
| Arizona—A79-5100       | _____ | Feb. 9, 1979  |
| California—            |       |               |
| CA79-5122              | _____ | Aug. 11, 1979 |
| CA79-5123              | _____ | Aug. 18, 1979 |
| Florida—FL79-1019      | _____ | Feb. 2, 1979  |
| Iowa—IA79-4109         | _____ | Nov. 24, 1978 |
| Maryland—MD79-3020     | _____ | Apr. 14, 1979 |
| Nevada—NV79-5107       | _____ | Mar. 9, 1979  |
| Oregon—OR79-5127       | _____ | July 13, 1979 |
| Pennsylvania—PA79-3003 | _____ | Mar. 16, 1979 |

## Supersedeas Decisions to General Wage Determination Decisions

The numbers of the decisions being superseded and their dates of publication in the Federal Register are listed with each State. Supersedeas Decision numbers are in parentheses following the numbers of the decisions being superseded.

|                              |       |               |
|------------------------------|-------|---------------|
| Georgia—GA79-1013(GA79-1122) | _____ | Jan. 5, 1979  |
| Montana—MT79-5101(MT79-5123) | _____ | Feb. 9, 1979  |
| Nevada—NV79-5114(NV79-5131)  | _____ | June 29, 1979 |

## Cancellation of General Wage Determination Decisions

None.

Signed at Washington, D.C. this 24th day of August 1979.

Sterling B. Williams,

Acting Assistant Administrator, Wage and Hour Division.

BILLING CODE 4510-27-M

MODIFICATIONS P. 2

| DECISION NO. / Mod. No. / FR No. / Date  | Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or App. Tr. |
|--|--------------------|--------------------------|----------|----------|---------------------------|
|  |                    | H & W                    | Pensions | Vacation |                           |
| DECISION #CA78-5122-Mod. #6 (43 FR 35035 - August 11, 1978)  |                    |                          |          |          |                           |
| Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties, California  |                    |                          |          |          |                           |
| Change: Sheet Metal Workers  | \$14.96            | \$1.04                   | \$2.24   |          | .01                       |
| Imperial County (Remaining portion)  | 13.55              | 1.14                     | 2.35     |          | .10                       |
| Orange County  | 14.16              | 1.14                     | 2.64     |          | .09                       |
| Riverside and San Bernardino Counties  | 13.90              | 1.14                     | 1.91     |          | .16                       |
| DECISION #CA78-5123-Mod. #7 (41 FR 36839 - August 18, 1978)  |                    |                          |          |          |                           |
| Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, and Ventura Counties, California |                    |                          |          |          |                           |
| Change: Sheet Metal Workers  | 14.96              | 1.04                     | 2.24     |          | .01                       |
| Imperial County (Remaining portion)  | 13.55              | 1.14                     | 2.35     |          | .10                       |
| Orange County  | 14.16              | 1.14                     | 2.64     |          | .09                       |
| Riverside and San Bernardino Counties  | 13.90              | 1.14                     | 1.91     |          | .16                       |

MODIFICATIONS P. 1

| DECISION NO. / Mod. No. / FR No. / Date   | Basic Hourly Rates | Fringe Benefits Payments |          |          | Education and/or App. Tr. |
|---|--------------------|--------------------------|----------|----------|---------------------------|
|   |                    | H & W                    | Pensions | Vacation |                           |
| DECISION NO. AL72-1042 Mod. #1 (44 FR 12113 - March 9, 1979)                      |                    |                          |          |          |                           |
| Jefferson, Shelby, St. Clair and Walker Counties, Alabama                         |                    |                          |          |          |                           |
| Change: Electricians  | 12.03              | .53                      | 3%+.40   |          | 10%                       |
| Electricians  | 12.30              | .53                      | 3%+.40   |          | 10%                       |
| Cable Splicers  | 10.36              | .895                     | .69      | 8+8      | .03                       |
| Elevator Constructors   |                    |                          |          |          |                           |
| Terrazzo workers, Tile setters  | 9.95               |                          | .50      |          |                           |
| DECISION NO. AL72-1066 Mod. #2 (44 FR 22307 - April 13, 1979)                     |                    |                          |          |          |                           |
| Madison County, Alabama   |                    |                          |          |          |                           |
| ADD: Roofers  | 8.53               |                          |          |          |                           |
| DECISION #A279-5100 - Mod. #5 (44 FR 8402 - February 9, 1979)                     |                    |                          |          |          |                           |
| Statewide, Arizona  |                    |                          |          |          |                           |
| Change: Electricians  | \$14.94            | .60                      | 11%      |          | 1/28                      |
| Cochise, Graham, Greenlee, Pima, Pinal County (south part), Santa Cruz, Yuma Co.s | 15.19              | .60                      | 11%      |          | 1/28                      |
| Zone A: Electricians  | 15.60              | .60                      | 11%      |          | 1/28                      |
| Cable Splicers  | 15.93              | .60                      | 11%      |          | 1/28                      |
| Zone B: Electricians  | 16.31              | .60                      | 11%      |          | 1/28                      |
| Cable Splicers  | 16.50              | .60                      | 11%      |          | 1/28                      |

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Friday  
November 16, 1979

**NOT RECORDED**

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**Part II**

**Department of Labor**

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**Employment Standards Administration**

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**Minimum Wages for Federal and  
Federally Assisted Construction; General  
Wage Determination Decisions**

## DEPARTMENT OF LABOR

Employment Standards Administration  
Wage and Hour DivisionMinimum Wages for Federal and  
Federally Assisted Construction;  
General Wage Determination  
Decisions

General wage determination decisions of the Secretary of Labor specify, in accordance with applicable law and on the basis of information available to the Department of Labor from its study of local wage conditions and from other sources, the basic hourly wage rates and fringe benefit payments which are determined to be prevailing for the described classes of laborers and mechanics employed in construction projects of the character and in the localities specified therein.

The determinations in these decisions of such prevailing rates and fringe benefits have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of part 1 of subtitle A of title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 12-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

Good cause is hereby found for not utilizing notice and public procedure thereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in effective date as prescribed in that section, because the necessity to issue construction industry wage determination frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General wage determination decisions are effective from their date of publication in the Federal Register

without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision together with any modifications issued subsequent to its publication date shall be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable Federal prevailing wage law and 29 CFR, Part 5. The wage rates contained therein shall be the minimum paid under such contract by contractors and subcontractors on the work.

Modifications and Supersedeas  
Decisions to General Wage  
Determination Decisions

Modifications and supersedeas decisions to general wage determination decisions are based upon information obtained concerning changes in prevailing hourly wage rates and fringe benefit payments since the decisions were issued.

The determinations of prevailing rates and fringe benefits made in the modifications and supersedeas decisions have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of part 1 of subtitle A of title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's orders 13-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in foregoing general wage determination decisions, as hereby modified, and/or superseded shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged in contract work of the character and in the localities described therein.

Modifications and supersedeas decisions are effective from their date of publication in the Federal Register without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Any person, organization, or governmental agency having an interest in the wages determined as prevailing is encouraged to submit wage rate

information for consideration by the Department. Further information and self-explanatory forms for the purpose of submitting this data may be obtained by writing to the U.S. Department of Labor, Employment Standards Administration, Wage & Hour Division, Office of Government Contract Wage Standards, Division of Construction Wage Determinations, Washington, D.C. 20210. The cause for not utilizing the rulemaking procedures prescribed in 5 U.S.C. 553 has been set forth in the original General Determination Decision.

New General Wage Determination  
Decisions.

None.

Modifications to General Wage  
Determination Decisions

The numbers of the decisions being modified and their dates of publication in the Federal Register are listed with each State:

|             |       |                |
|-------------|-------|----------------|
| Alabama:    |       |                |
| AL79-1133   | _____ | Oct. 19, 1978. |
| AL79-1066   | _____ | Apr. 13, 1978. |
| California: |       |                |
| CA78-5127   | _____ | Aug. 18, 1978. |
| Georgia:    |       |                |
| GA79-1014   | _____ | Jan. 5, 1979.  |
| GA79-1122   | _____ | Aug. 31, 1978. |
| Kentucky:   |       |                |
| KY79-1034   | _____ | Feb. 9, 1979.  |
| KY79-1031   | _____ | Feb. 9, 1979.  |
| KY79-1109   | _____ | July 6, 1979.  |
| Montana:    |       |                |
| MT79-5106   | _____ | July 27, 1978. |
| Tennessee:  |       |                |
| TN79-1104   | _____ | June 29, 1979. |
| TN79-1091   | _____ | Oct. 20, 1978. |
| TN79-1090   | _____ | Oct. 20, 1978. |

Supersedeas Decisions to General Wage  
Determination Decisions

The numbers of the decisions being superseded and their dates of publication in the Federal Register are listed with each State. Supersedeas decision numbers are in parentheses following the numbers of the decisions being superseded:

|                       |       |                |
|-----------------------|-------|----------------|
| Georgia:              |       |                |
| GA79-1086 (GA79-1148) | _____ | Oct. 13, 1978. |
| Kentucky:             |       |                |
| KY79-1033 (KY79-1144) | _____ | Feb. 9, 1979.  |
| KY79-1032 (KY79-1145) | _____ | Feb. 9, 1979.  |
| New York:             |       |                |
| NY79-3078 (NY79-3042) | _____ | Oct. 27, 1978. |
| Tennessee:            |       |                |
| TN79-1089 (TN79-1146) | _____ | July 7, 1978.  |

Cancellation of General Wage  
Determination Decision

None.

Signed at Washington, D.C., this 9th day of November 1979.

Dorothy P. Come,

Assistant Administrator Wage and Hour  
Division.

BILLING CODE 4510-27-M

MODIFICATION PAGE 1

|   | Basic Hourly Rates      | Fringe Benefits Payments |            |          |                            |
|---|-------------------------|--------------------------|------------|----------|----------------------------|
|   |                         | H & W                    | Pensions   | Vacation | Education and/or Appr. Tr. |
| Decision #AL79-1133 - Mod. #1<br>(44-FR-60513 - October 19, 1979)<br>Tuscaloosa County, Alabama |                         |                          |            |          |                            |
| <b>CHANGE:</b><br>Bricklayers<br>Tile setters   | \$10.35<br>10.10        |                          | .40<br>.40 |          | .05<br>.05                 |
| Decision #AL79-1066-Mod. #3<br>(44-FR-22307-April 13, 1979)<br>Madison County, Alabama          |                         |                          |            |          |                            |
| <b>Change:</b><br>Bricklayers<br>Cement masons<br>Plumbers & Pipefitters                        | 11.00<br>10.25<br>11.50 | .60                      | .60        |          | .15                        |

MODIFICATION PAGE 2

| DECISION NO. CA78-5123 - Mod. #8<br>(43 FR 36839 - August 18, 1978)<br>Imperial, Kern, Los Angeles,<br>Orange, Riverside, San Bernardino,<br>San Luis Obispo, Santa Barbara<br>and Ventura Counties, California            | Basic Hourly Rates                                 | Fringe Benefits Payments               |   |          |                               |
|--|--|--|---|----------|-------------------------------|
|  |  | H & W                                  | Pensions                                | Vacation | Education and/or Appr. Tr.    |
| <b>CHANGE:</b><br><b>PAINTERS:</b><br>San Luis Obispo, Santa Barbara<br>and Ventura Counties:<br>Brush; Pot Tender<br>Paperhangers; Pasta Machine<br>Operators; Iron and Steel<br>Spray; Taper; Sandblaster<br>Steeplejack | \$12.99<br>13.24<br>13.49<br>13.99                 | 1.25<br>1.25<br>1.25<br>1.25           | 1.30<br>1.30<br>1.30<br>1.30            |          | .03<br>.03<br>.03<br>.03      |
| <b>CHIT:</b><br><b>PAINTERS:</b><br>San Luis Obispo, Santa Barbara<br>and Ventura Counties:<br>Sign Painter  | 13.00  | 1.07                                   | 1.30                                    |          | .03                           |
| DECISION #GA79-1011 - Mod. #1<br>(44 FR 1632 - January 5, 1979)<br>Olayton, DeKalb, & Fulton<br>Counties, Georgia  |  |  |   |          |                               |
| <b>CHANGE:</b><br>Asbestos workers<br>Bricklayers & Stone masons<br>Cement masons<br>Marble, Tile, & Terrazzo workers<br>Plasterers<br>Sprinkler fitters   | \$11.45<br>10.40<br>9.45<br>10.40<br>9.92<br>11.94 | .55<br>.65<br>.60<br>.65<br>.60<br>.75 | .75<br>.50<br>.80<br>.50<br>.80<br>1.05 |          | .10<br>.10<br><br><br><br>.08 |
| DECISION #GA79-1122 - Mod. #1<br>(44 FR 51491 - August 31, 1979)<br>DeKalb & Fulton Counties,<br>Georgia   |  |  |   |          |                               |
| <b>CHANGE:</b><br>Brick masons<br>Cement masons/finishers<br>Electricians<br>Waterproofers (Roofers)   | \$10.40<br>9.45<br>12.05<br>7.75                   | .65<br>.60<br>9%<br>.35                | .50<br>.80<br>11%<br>.20                |          | .10<br><br>1/2 of 1%<br>.02   |

MODIFICATION PAGE 3

DECISION #KY79-1034 - Mod. #2  
(M FR 8504 - February 9, 1979)  
Benderson County, Kentucky

CHANGE:

Bricklayers, Stone masons,  
Marble masons, Plasterers,  
Terrazzo workers, Tile  
setters  
Carpenters  
Cement masons  
Electricians:  
Wiremen  
Cable splicers  
Painters:  
Brush & roller  
Drywall tapers, paperhanger  
Sandblaster, power tools  
Spray  
Piledrivermen  
Plumbers & Pipefitters  
Power Equipment Operators:  
Class A  
Class B  
Class C  
Sheet metal workers  
Sprinkler fitters

| Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| \$10.54            | .45                      | .35      |          |                            |
| 11.37              | .60                      | 1.00     |          |                            |
| 10.30              | .85                      | .65      |          |                            |
| 12.38              | .50                      | 3%       |          | 1/8 of 1%                  |
| 12.63              | .50                      | 3%       |          | 1/8 of 1%                  |
| 10.65              | .80                      | .40      |          |                            |
| 10.90              | .80                      | .40      |          |                            |
| 11.65              | .80                      | .40      |          |                            |
| 11.65              | .80                      | .40      |          |                            |
| 11.62              | .60                      | 1.00     |          |                            |
| 13.58              | .75                      | 1.05     |          | .10                        |
| 11.60              | .50                      | .80      |          | .05                        |
| 8.86               | .50                      | .80      |          | .05                        |
| 8.09               | .50                      | .80      |          | .05                        |
| 12.97              | .55                      | .55      |          | .03                        |
| 13.33              | .75                      | 1.05     |          | .08                        |

MODIFICATION PAGE 4

DECISION #KY79-1031 - Mod. #2  
(M FR 8497 - February 9, 1979)  
McCracken County, Kentucky

CHANGE:

Bricklayers, Stone masons,  
Marble masons, Tile setters,  
& Terrazzo workers  
Carpenters & Soft floor layers  
Cement masons  
Electricians:  
Wiremen  
Cable splicers  
Elevator Constructors:  
Mechanics  
Helpers  
Probationary helpers  
Ironworkers  
Laborers:  
Group 1  
Group 2  
Group 3  
Lathers  
Line Constructors:  
Linemen & equipment operators  
Cable splicers  
Groundmen - truck drivers  
Groundmen  
Millwrights & Piledrivermen  
Painters:  
Brush & roller  
Sandblast & power tools  
Steeples jack work  
Plasterers  
Plumbers & Pipefitters  
Power Equipment Operators:  
Class A  
Class B  
Class C  
Roofers  
Sheet metal workers  
Sprinkler fitters

| Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| \$10.34            | .45                      | .35      |          |                            |
| 10.60              | .45                      | .25      |          | .02                        |
| 9.45               | .90                      | .60      |          | .05                        |
| 11.45              | .50                      | 1%       |          | 1/8 of 1%                  |
| 11.70              | .50                      | 1%       |          | 1/8 of 1%                  |
| 12.57              | 1.045                    | .69      | a + b    | .03                        |
| 8.80               | 1.045                    | .69      | a + b    | .03                        |
| 6.285              |                          |          |          |                            |
| 11.60              | .55                      | .85      |          | .05                        |
| 7.73               | .35                      | .47      |          |                            |
| 7.93               | .35                      | .47      |          |                            |
| 8.23               | .35                      | .47      |          |                            |
| 10.06              |                          | .20      | .75      | .01                        |
| 11.35              | .70                      | 13%      |          | 1/8 of 1%                  |
| 11.60              | .70                      | 13%      |          | 1/8 of 1%                  |
| 8.49               | .70                      | 13%      |          | 1/8 of 1%                  |
| 8.26               | .70                      | 13%      |          | 1/8 of 1%                  |
| 11.10              | .45                      | .25      |          | .02                        |
| 8.10               | .50                      |          |          |                            |
| 9.00               | .50                      |          |          |                            |
| 11.20              | .50                      |          |          |                            |
| 10.01              |                          |          | .95      | .01                        |
| 12.60              | .60                      | .65      | .50      | .08                        |
| 11.60              | .50                      | .80      |          | .05                        |
| 8.86               | .50                      | .80      |          | .05                        |
| 8.09               | .50                      | .80      |          | .05                        |
| 9.70               |                          | .10      |          |                            |
| 12.88              | 1.563                    | 1.47     |          | .16                        |
| 13.33              | .75                      | 1.05     |          | .08                        |



# Federal Register

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Friday  
March 7, 1980

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Part II

## Department of Labor

Employment Standards Administration

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Minimum Wages for Federal and  
Federally Assisted Construction; General  
Wage Determination Decisions

## DEPARTMENT OF LABOR

Employment Standards  
Administration, Wage and Hour  
DivisionMinimum Wages for Federal and  
Federally Assisted Construction;  
General Wage Determination  
Decisions

General wage determination decisions of the Secretary of Labor specify, in accordance with applicable law and on the basis of information available to the Department of Labor from its study of local wage conditions and from other sources, the basic hourly wage rates and fringe benefit payments which are determined to be prevailing for the described classes of laborers and mechanics employed on construction projects of the character and in the localities specified therein.

The determinations in these decisions of such prevailing rates and fringe benefits have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of part 1 of subtitle A of title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 12-71 and 15-71 (36 FR 8755, 8758). The prevailing rates and fringe benefits determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

Good cause is hereby found for not utilizing notice and public procedure thereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in effective date as prescribed in that section, because the necessity to issue construction industry wage determination frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General wage determination decisions are effective from their date of publication in the Federal Register

without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision together with any modifications issued subsequent to its publication date shall be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable Federal prevailing wage law and 29 CFR, Part 5. The wage rates contained therein shall be the minimum paid under such contract by contractors and subcontractors on the work.

Modifications and Supersedeas  
Decisions to General Wage  
Determination Decisions

Modifications and supersedeas decisions to general wage determination decisions are based upon information obtained concerning changes in prevailing hourly wage rates and fringe benefit payments since the decisions were issued.

The determinations of prevailing rates and fringe benefits made in the modifications and supersedeas decisions have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of part 1 of Subtitle A of Title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 13-71 and 15-71 (36 FR 8755, 8758). The prevailing rates and fringe benefits determined in foregoing general wage determination decisions, as hereby modified, and/or superseded shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged in contract work of the character and in the localities described therein.

Modifications and supersedeas decisions are effective from their date of publication in the Federal Register without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Any person, organization, or governmental agency having an interest in the wages determined as prevailing is encouraged to submit wage rate

information for consideration by the Department. Further information and self-explanatory forms for the purpose of submitting this data may be obtained by writing to the U.S. Department of Labor, Employment Standards Administration, Wage & Hour Division, Office of Government Contract Wage Standards, Division of Construction Wage Determinations, Washington, D.C. 20210. The cause for not utilizing the rulemaking procedures prescribed in 5 U.S.C. 553 has been set forth in the original General Determination Decision.

New General Wage Determination  
Decisions

None.

Modifications to General Wage  
Determination Decisions

The numbers of the decisions being modified and their dates of publication in the Federal Register are listed with each State.

|               |       |                 |
|---------------|-------|-----------------|
| Alabama:      |       |                 |
| AL79-1142     | _____ | Nov. 23, 1979.  |
| Arizona:      |       |                 |
| AZ79-5100     | _____ | Feb. 9, 1979.   |
| California:   |       |                 |
| CA79-5122     | _____ | Aug. 11, 1978.  |
| CA79-5123     | _____ | Aug. 18, 1978.  |
| Florida:      |       |                 |
| FL79-1051     | _____ | May 28, 1978.   |
| FL80-1034     | _____ | Jan. 18, 1980.  |
| FL80-1035     | _____ | Jan. 4, 1980.   |
| FL80-1036     | _____ | Jan. 4, 1980.   |
| FL80-1037     | _____ | Jan. 4, 1980.   |
| FL80-1045     | _____ | Jan. 18, 1980.  |
| FL79-1058     | _____ | Apr. 13, 1979.  |
| Louisiana:    |       |                 |
| LA80-4014     | _____ | Jan. 25, 1980.  |
| Maine:        |       |                 |
| ME80-2005     | _____ | Feb. 22, 1980.  |
| Maryland:     |       |                 |
| MD79-3026     | _____ | Aug. 31, 1979.  |
| Minnesota:    |       |                 |
| MN79-2021     | _____ | May 4, 1979.    |
| MN79-2022     | _____ | May 4, 1979.    |
| MN79-2023     | _____ | May 4, 1979.    |
| MN79-2024     | _____ | May 4, 1979.    |
| MN79-2025     | _____ | May 4, 1979.    |
| Nebraska:     |       |                 |
| NE80-4013     | _____ | Jan. 25, 1980.  |
| Nevada:       |       |                 |
| NV79-5102     | _____ | Mar. 9, 1979.   |
| NV79-5107     | _____ | Mar. 9, 1979.   |
| NV79-5131     | _____ | Aug. 31, 1979.  |
| NV80-5100     | _____ | Feb. 1, 1980.   |
| New Mexico:   |       |                 |
| NM79-4103     | _____ | Nov. 2, 1979.   |
| Ohio:         |       |                 |
| OH79-2148     | _____ | Nov. 13, 1978.  |
| OH79-2086     | _____ | Dec. 21, 1979.  |
| Oklahoma:     |       |                 |
| OK79-4096     | _____ | Nov. 23, 1979.  |
| Pennsylvania: |       |                 |
| PA79-3012     | _____ | May 18, 1979.   |
| Texas:        |       |                 |
| TX79-4032     | _____ | Mar. 18, 1979.  |
| TX79-4035     | _____ | Sept. 28, 1979. |
| TX79-4037     | _____ | June 1, 1979.   |
| TX79-4039     | _____ | Mar. 16, 1979.  |
| TX79-4041     | _____ | Sept. 28, 1979. |
| TX79-4043     | _____ | Sept. 28, 1979. |
| TX79-4051     | _____ | May 4, 1979.    |
| TX80-4001     | _____ | Jan. 4, 1980.   |
| TX80-4005     | _____ | Jan. 4, 1980.   |
| TX80-4008     | _____ | Jan. 4, 1980.   |

Supersedeas Decisions to General Wage  
Determination Decisions

The numbers of the decisions being superseded and their dates of

publication in the Federal Register are listed with each State. Supersedeas decision numbers are in parentheses following the numbers of the decisions being superseded.

Massachusetts:  
MA78-2086(MA80-2001) \_\_\_\_\_ Sept. 22, 1978.  
New Hampshire:  
NH80-2046(NH80-2006) \_\_\_\_\_ May 11, 1978.  
New York:  
NY78-3022(NY80-3006) \_\_\_\_\_ July 20, 1978.  
Ohio:  
OH77-2089(OH80-2003) \_\_\_\_\_ May 20, 1977.  
Oregon:  
OR78-5117(OR80-5108) \_\_\_\_\_ July 21, 1978.  
Washington:  
WA78-5128(WA80-5107) \_\_\_\_\_ July 20, 1978.

#### **Cancellation of General Wage Determination Decisions**

The general wage decisions listed below are cancelled. Agencies with residential construction projects contemplated in the Counties should utilize the project determination procedure by submitting Form SF 308 (See 29 CFR Part 1, Section 1.5). Contracts for which bids have been opened shall not be affected by this notice. Consistent with 29 CFR Part 1, Section 1.7(b)(2), inclusion of the decisions in contracts for which the bid opening is within ten (10) days of this notice need not be affected.

IN77-2020, Clay County, Indiana—

Residential Construction

IN77-2024, Greene County, Indiana—

Residential Construction

Signed at Washington, D.C., this 29th day of February 1980.

Dorothy P. Come,

Assistant Administrator, Wage and Hour Division.

BILLING CODE 4510-27-M

*MISSING*

**DECISION # AL79-1142 - MOD. #2**  
 (44 FR 67305 - November 23, 1979)  
 Lawrence, Limestone and  
 Morgan Counties, Alabama

**CHANGES:**

**Carpenters:**

Carpenters & Soft Floor  
 Layers 99.20  
 Millwrights 9.85  
 Piledrivermen 9.60

| Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| 99.20              | .55                      | .45      |          | .05                        |
| 9.85               | .55                      | .45      |          | .05                        |
| 9.60               | .55                      | .45      |          | .05                        |

*TWO PAGES OF DATA BELOW*

**DECISION NO. AZ79-5100 - Mod. #9**

(44 FR 8482-February 9, 1979)

Statewide, Arizona

**Changes:**

**Electricians:**

**Flagstaff Area:**

Zone A 13.80

Zone B 16.35

**Phoenix Area:**

Zone A 14.85

Zone B 16.85

Zone C 17.85

Glaziers 12.17

**Ironworkers:**

**Central and Southern Areas** 13.35

Northern Area 15.61

**Line Construction:**

**Zone 1:**

Groundmen 11.09

Equipment Operator; Powdermen; Mechanics 13.10

Linemen; Technicians; Crane Operators 14.76

Cable Splicers 15.19

**Zone 1-A:**

Groundmen 12.00

Equipment Operator; Powdermen; Mechanics 13.93

Linemen; Technicians; Crane Operators 15.65

Cable Splicers 16.17

**Zone 2:**

Groundmen 12.85

Equipment Operator; Powdermen; Mechanics 14.79

Linemen; Technicians; Crane Operators 16.51

Cable Splicers 16.98

**Painters:**

**Tucson and Yuma Areas:**

**Zone A:**

Brush 10.29

Spray & Sandblasters 10.79

Paperhangors 10.43

| Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| 13.80              | .96                      | 38+.88   |          | 1/28                       |
| 16.35              | .96                      | 38+.88   |          | 1/28                       |
| 14.85              | .96                      | 38+.88   |          | 3/40                       |
| 16.85              | .96                      | 38+.88   |          | 3/40                       |
| 17.85              | .96                      | 38+.88   |          | 3/40                       |
| 12.17              | .90                      | .30      |          | .01                        |
| 13.35              | 1.54                     | 2.57     |          | .11                        |
| 15.61              | 1.54                     | 2.57     |          | .11                        |
| 11.09              | 1.00                     | 38+2.00  |          | 1/28                       |
| 13.10              | 1.00                     | 38+2.00  |          | 1/28                       |
| 14.76              | 1.00                     | 38+2.00  |          | 1/28                       |
| 15.19              | 1.00                     | 38+2.00  |          | 1/28                       |
| 12.00              | 1.00                     | 38+2.00  |          | 1/28                       |
| 13.93              | 1.00                     | 38+2.00  |          | 1/28                       |
| 15.65              | 1.00                     | 38+2.00  |          | 1/28                       |
| 16.17              | 1.00                     | 38+2.00  |          | 1/28                       |
| 12.85              | 1.00                     | 38+2.00  |          | 1/28                       |
| 14.79              | 1.00                     | 38+2.00  |          | 1/28                       |
| 16.51              | 1.00                     | 38+2.00  |          | 1/28                       |
| 16.98              | 1.00                     | 38+2.00  |          | 1/28                       |
| 10.29              | .77                      | .45      |          | .08                        |
| 10.79              | .77                      | .45      |          | .08                        |
| 10.43              | .77                      | .45      |          | .08                        |

SECTION 2 - IFB

SECTION ITB - INSTRUCTIONS TO BIDDERS (STANDARD FORM 22)

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| 2. Conditions Affecting the Work .....   | 1           |
| 3. Bidders Qualifications .....  | 1           |
| 4. Bid Guarantee .....   | 1           |
| 5. Preparation of Bids .....   | 1           |
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| 27. Quality Assurance Plan .....   | 7           |
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| Exhibits   |             |
| A. Bid Bond  |             |
| B. Performance Bond  |             |
| C. Payment Bond  |             |

FW INSTRUCTIONS

TO BROTHERS

SEP-22 SHOULD

BE

INSERTED HERE!

CLAUDE-1-12

SUPPLEMENT TO STANDARD FORM 22

12. Bid Preparation Costs

This invitation to Bid does not commit the Government to pay any costs incurred in the submission of a bid or in making necessary studies or preparations thereof.

13. Examination of Solicitation Material

Before submitting any Bid, each Bidder shall examine these "instructions to Bidders," The Request for Bid, the required Bond forms, the Specifications and other documents provided with this solicitation.

14. Addenda

- a. Addenda will be mailed or delivered to all who are known by the Contracting Officer to have received a complete set of Bidding Documents.
- b. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.
- c. No Addenda will be issued later than four days prior to the date for receipt of bids except an Addendum, if necessary, postponing the date for receipt of bids or withdrawing the Request for Bids.
- d. Each Bidder shall ascertain prior to submitting his bid that he has received all Addenda issued and he shall acknowledge their receipt in his bid.

15. Site Inspection, Technical Inquiries, and Bid Submittal and Contractual Inquiries

a. Site Inspection

An opportunity shall be afforded the Bidders to visit the site of the proposed Work and observe the site condition so that each may be fully informed as to the materials, labor and workmanship required and the conditions under which the Work must be accomplished. This inspection will be conducted at the time and on the date shown on Standard Form 20 of the Invitation. It is essential that all Bidders visit the site, examine the site conditions and give careful consideration of the performance time and completion sequence for the Work. The Construction Manager, Townsend and Bottum, Inc. will conduct the meeting and make the necessary arrangements to visit the site. All personnel who plan to visit the site should

contact Townsend and Bottum, Inc. at (213) 579-7591, before 4:00 p.m., one working day prior to the site inspection date. During the site inspection, prospective bidders will be given an opportunity to secure clarification and explanation of the technical and non-technical provisions of the contract and to enable the Contracting Officer to inform bidders of the principles and practices which he will follow in the administration of the contract. A record will be made of the conference and a copy will be sent to all those who have requested a copy of the IFB. All bidders are urged to attend the site visit.

- b. Submission of a Bid shall imply that the bidder has made an examination of the Site and is thoroughly familiar with existing conditions. No claim for additional compensation for labor, materials, equipment and for difficulties encountered (which could have been foreseen had such an examination been made) will be paid. Any failure to fully investigate the Site or the Contract Conditions shall not relieve the Bidder from responsibility for estimating properly the difficulty or cost of successfully performing any work.
- c. Inquiries should be directed to:

U.S. Department of Energy  
San Francisco Operations Office  
Solar Ten Megawatt Project Office  
9550 Flair Drive, Suite 210  
El Monte, California 91731  
(213) 579-7574

16. Notice of Requirement For Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)

- a. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
- b. The goals and timetables 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:

Timetables--Goals for female participation in each trade by percent

|                                    |     |
|------------------------------------|-----|
| April 1, 1978 until March 31, 1979 | 3.1 |
| April 1, 1979 until March 31, 1980 | 5.0 |
| April 1, 1980 until March 31, 1981 | 6.9 |

--Goals for minority participation for each trade -- 19.7%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographic area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and 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, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

c. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of 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 name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

d. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is the vicinity of Daggett, San Bernardino County, California.

17. Compliance With Affirmative Action Requirements

The Department of Energy is required to take certain actions in the administration of the equal employment opportunity, affirmative action requirements imposed by this contract.

action requirements imposed by this contract. As determined by the Department of Energy some of these functions may be performed by others on behalf of the DOE.

18. Bonds

(Applicable if the resulting initial contract price exceeds \$25,000)

a. Payment Bond (See Exhibit C)

The Contractor shall furnish either (1) good and sufficient surety or surties acceptable to the Government for the protection of persons furnishing material or labor in connection with the performance of the work under this contract on U. S. Standard Form No. 25A, or (2) in lieu thereof, to deposit for this purpose one of the types of security listed in Federal Procurement Regulation (41 CFR 1-10.204). The penal sum of such security shall be 50% of the contract price or estimated contract price. If this contract is in excess of \$1 million dollars but not more than \$5 million dollars the penal sum shall be 40% of the contract price or estimated contract price. When the contract price is more than \$5 million dollars, the penal sum shall be \$2,500,000.

b. Performance Bond (See Exhibit B)

The Contractor shall furnish either (1) a performance bond with good and sufficient surety or surties acceptable to the Government in connection with the performance of the work under this contract on U. S. Standard Form No. 25, or (2) in lieu thereof, to deposit for this purpose one of the types of security listed in Federal Procurement Regulation (41 CFR) 1-10.204. Unless otherwise specified in Division 1, the penal sum of such performance bond shall be 100% of the contract price (or estimated contract price).

c. Date of Bond

Any bonds or other securities required hereunder will be dated as of the same or later date than the date of the contract and will be furnished by the Contractor to the Government at the time the contract is executed.

d. When a performance and/or payment bond is not furnished within the period specified, the contract will be subject to termination for default when in the public interest.



e. Surety Bond Guarantee Assistance

As provided in 13 CFR Part 115, Small Business Administration under certain conditions offers assistance to small business concerns by reimbursing losses a surety may incur relevant to surety bonds required hereunder. Further information on this guarantee program may be obtained from the nearest office of the Small Business Administration.

19. Information Concerning Responsibility

Each Bidder shall, as and to the extent requested by the DOE, prior to award, submit the pertinent information as follows which will be considered by the Contracting Officer in determining whether the Low Bidder is a responsible bidder:

- a. A current financial statement.
- b. Bank Reference(s).
- c. A detailed resume, in chronological order covering the last five years of experience and how it relates to the work offered.
- d. A detailed list covering the last five years of all Government contract awards of whatever nature, if any. The list will include the following:
  - (1) Name of the awarding Government agency
  - (2) Project name
  - (3) Project location
  - (4) Contract Number
  - (5) Date of Award
  - (6) Personnel Resumes of key personnel

20. Working Drawings and Specifications

At the option of the successful bidder, up to ten sets of working drawings and specifications will be furnished after the award of the contract. If the successful bidder requests additional sets, they will be furnished at preestablished rates. Refer to subparagraph 28 of this supplement titled "Procurement of Plans and Specifications".

21. Taxes

Attention of Bidders and their prospective subcontractors is directed to General Provision 31 entitled "Federal, State, and Local Taxes" and to Regulation 1615 relative to Section 6007.5 of the California State Board of Equalization and to Regulation 1521 of the California Revenue and Taxation Code relating to sales of machinery and equipment for delivery under construction

contracts with the United States Government. However, responsibility for determination of the applicability of Regulation 1615 shall rest solely with the bidder, and no representation or guarantee either expressed or implied is made by the Government hereunder as to the application of Regulation 1615.

22. Information Regarding Buy American Act

- a. The Buy American Act (41 U.S.C. 10a-10d) generally requires that only domestic construction material be used in the performance of this contract. (See the clause entitled "Buy American" in Standard Form 23A, General Provisions, Construction Contract.) This requirement does not apply to the following construction material or components:

|                            |                          |
|----------------------------|--------------------------|
| Antimony                   | Nickel                   |
| Asbestos                   | Shellac                  |
| Sauxite                    | Tin                      |
| Cork                       | Chrome ore               |
| Mica                       | or chromite              |
| Graphite                   | Cobalt                   |
| Rubber, crude<br>and latex | Jute and jute<br>burlaps |

Logs, veneer, and lumber from balsa, greenheart, lignum vitae, mahogany and teak.

- b. (1) Furthermore, bids or proposals offering use of additional non-domestic construction material may be acceptable for award if the Government determines that use of comparable domestic construction material is impracticable or would unreasonably increase the cost, or that domestic construction material (in sufficient and reasonably available commercial quantities and of a satisfactory quality) is unavailable. Reliable evidence shall be furnished justifying such use of additional non-domestic construction material.
- (2) Where it is alleged that use of domestic construction material would unreasonably increase the cost:
  - (i) Data shall be included, based on a reasonable canvass of suppliers, demonstrating that the cost of each such domestic construction material would exceed by more than 6 percent the cost of comparable non-domestic construction material. (All

costs of delivery to the construction site shall be included, as well as any applicable duty.)

- (ii) For evaluation purposes, 6 percent of the cost of all additional nondomestic construction material, which qualifies under paragraph (i) above, will be added to the bid or proposal.

- (3) When offering additional nondomestic construction material, bids or proposals may also offer, at stated prices, any available comparable domestic construction material, so as to avoid the possibility that failure of a nondomestic construction material to be acceptable, under (i) above, will cause rejection of the entire bid.

23. Notice of Total Small Business Set-Aside

- a. General. If this Invitation for Bids (IFB) is identified as a Small Business Set-Aside, then bids or proposals under this procurement will be solicited only from small business concerns under the Small Business Act. The procurement is to be awarded only to one or more such concerns, organizations or individuals. This action is based on a determination by the Contracting Officer, alone or in conjunction with a representative of the Small Business Administration, that it is in the interest of maintaining or mobilizing the Nation's full productive capacity, or in the interest of war or national defense programs, or in the interest of assuring that a fair proportion of Government procurement is placed with small business concerns, or in the interest of assisting eligible organizations for the handicapped and handicapped individuals. Bids or proposals received from others will be considered nonresponsive.
- b. Definition. The term "small business concern" means a concern, including its affiliates, which is independently owned and operated, is not dominant in the field of operation in which it is bidding on Government contracts, and can further qualify under the criteria set forth in the regulations of the Small Business Administration (13 CFR 121.3-8). In addition to meeting these criteria, a manufacturer or a regular dealer submitting bids or proposals in his own name

must agree to furnish in the performance of the contract end items manufactured or produced in the United States, its territories and possessions, Commonwealth of Puerto Rico, the Trust Territory of the Pacific Islands, and the District of Columbia, by small business concerns: Provided, That this additional requirement does not apply in connection with construction or service contracts.

24. Late Bids, Modifications of Bids, or Withdrawal of Bids

Paragraph 7, Late Bids and Modifications or Withdrawals, of Standard Form 22 is deleted and the following provision substituted therefor:

- a. Any bid received at the office designated in the solicitation after the exact time specified for receipt will not be considered unless it is received before award is made and either:
  - (1) It was sent by registered or certified mail not later than the fifth calendar day prior to the date specified for the receipt of bids (e.g., a bid submitted in response to a solicitation requiring receipt of bids by the 20th of the month must have been mailed by the 15th or earlier); or
  - (2) It was sent by mail (or telegram if authorized) and it is determined by the Government that the late receipt was due solely to mishandling by the Government after receipt at the Government installation.
- b. Any modification or withdrawal of a bid is subject to the same conditions as in a. above. A bid may also be withdrawn in person by a bidder or his authorized representative, provided his identity is made known and he signs a receipt for the bid, but only if the withdrawal is made prior to the exact time set for receipt of bids.
- c. The only acceptable evidence to establish:
  - (1) The date of mailing of a late bid, modification, or withdrawal sent either by registered or certified mail is the U. S. Postal Service postmark on both the envelope or wrapper and on the original receipt from the U.S. Postal Service. If neither postmark shows a legible date, the bid, modification, or withdrawal shall be deemed to have

been mailed late. (The term "postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed on the date of mailing by employees of the U.S. Postal Service. Therefore, offerors should request the postal clerk to place a hand cancellation bull's-eye "postmark" on both the receipt and the envelope or wrapper.)

- (2) The time of receipt at the Government installation is the time-date stamp of such installation on the bid wrapper or other documentary evidence of receipt maintained by the installation.

- d. Notwithstanding a. and b. of this provision, a late modification of an otherwise successful bid which makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

25. Bid Guarantee

Paragraph 4, Bid Guarantee, of Standard Form 22 is deleted and the following provision substituted therefor:

- a. Where a bid guarantee is required by the invitation for bids, 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. A bid guarantee shall be in the form of a firm commitment, such as a bid bond, 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. Bid guarantees, other than bid bonds, will be returned (1) to unsuccessful bidders as soon as practicable after the opening of bids and (2) to the successful bidder upon execution of such further contractual documents and bonds (including any necessary coinsurance or reinsurance agreements) as may be required by the bid as accepted.
- c. If the successful bidder, upon acceptance of his bid by the Government within the period specified therein for acceptance (60 days if no period is specified) fails to execute such further contractual documents, if any, and give

such bond(s) (including any necessary coinsurance or reinsurance agreements) as may be required by the terms of the bid as accepted within the time specified (10 days if no period is specified) after receipt of the forms by him, his contract may be terminated for default. In such event he shall be liable for any cost of procuring the work which exceeds the amount of his bid, and the bid guarantee shall be available toward offsetting such difference.

- d. The bid guarantee must be effective for the entire bid acceptance period plus such time as is reasonably necessary to enable the Government to exercise its rights in the event the bidder fails to comply with the requirement to furnish payment and performance bonds.

26. SAFETY PLAN

In accordance with the General Conditions entitled "Construction Health and Safety Requirements", the successful contractor is required to furnish a safety plan for this project. A written notice to proceed may not be issued until a safety plan, acceptable to the DOE, has been received.

27. Quality Assurance Plan

In accordance with the Technical Specifications, the successful contractor is required to furnish a quality assurance plan for this project. A written notice to proceed may not be issued until a quality assurance plan acceptable to the DOE has been received.

28. Procurement of Plans and Specifications

A complete set(s) of plans and specifications for a charge of Twenty-Five Dollars (\$25) per set, a single copy(ies) of specifications for a charge of Ten Dollars (\$10) per copy, and individual sheets of drawings for a charge of \$1.25, can be obtained from Townsend and Bottum, Inc., 9550 Flair Drive, Suite 210, El Monte, CA 91731, (213) 579-7591. No charge will be made for additional drawings and/or specifications made necessary by addenda. All remittances shall be payable to Townsend and Bottum and should clearly reference this invitation and the purpose for which such payment is intended.

Any payment made is on a nonrefundable basis. However, if this invitation is cancelled or no award is made hereunder, any payment(s) made will be refunded by Townsend and Bottum upon the return to them in good condition of such plans and specifications.

29. Surety Bond Guarantee Assistance

As provided in 13 CFR Part 115, the Small Business Administration under certain conditions offers assistance to small business concerns by reimbursing losses a surety may incur relevant to surety bonds required hereunder. Further information on this guarantee program may be obtained from the nearest office of the Small Business Administration.

All other permits required for the completion of this contract are the responsibility of the contractor.

30. Preparation of Bids

The sealed envelope submitted by each bidder shall contain the following documents:

- a. One completed Bid Form (Standard Form 21)
- b. One completed Representations and Certifications Form (Standard Form 198)
- c. A bid guarantee in accordance with Supplemental 4 of Instructions to Bidders (Standard Form 24)

The Standard Forms 198, 21, and 24 are made a part of this Invitation in the section entitled, "Bid Submission Package".

31. Information Regarding Permits

The Construction Manager, Townsend & Bottum, Inc. will obtain the following permits:

|    | <u>Source</u>  | <u>Title</u>             |
|----|--|--------------------------|
| a. | State of California Department of Industrial Relations |                          |
| 1. | Division of Safety                                     | Pressure Vessel          |
| 2. | Occupational Health & Safety Administration            | Construction             |
| b. | San Bernardino Department of Building and Safety       |                          |
| 1. |  | Visitor's Center         |
| 2. |  | Temporary Electric Power |
| 3. |  | Grading                  |
| 4. |  | Warehouse                |
| 5. |  | Sewer-Potable Water      |
| 6. |  | Trailers                 |
| c. | San Bernardino County Fire Department                  | Fire Protection          |

32. SUBCONTRACTING PLAN FOR USE IN FORMALLY ADVERTISED SOLICITATIONS

Subcontracting plan for small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals.

- (a) This requirement is applicable to procurements expected to result in the award of contracts exceeding \$1,000,000 for construction, or \$500,000 for all other contracts which offer subcontracting opportunities and are required to contain the clause entitled "Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals."

Bidders who are notified that they have been selected for award shall, within 10 working days of such notice, furnish a subcontracting plan providing for the maximum practicable utilization of small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals. Such plan shall be included in and made part of any resulting contract. Submission of this plan will not be required of concerns which are themselves small businesses.

Should the bidder fail to submit such a plan within this time period, he shall be deemed ineligible for award. If the Contracting Officer determines that the plan, as submitted, is not satisfactory, the bidder shall be requested to submit, within ten working days (or such other time as may be determined by the Contracting Officer), a plan that is satisfactory to the Contracting Officer. If such a plan is not so submitted, the bidder shall be considered nonresponsible and ineligible for award of the contract.

The bidder's prior compliance with other such subcontracting plans shall be considered by DOE in evaluating the responsibility of the bidder for award.

- (b) The subcontracting plan shall include:
- (1) percentage goals (expressed in terms of both percentage of value of prime contract award and total planned subcontracting) for the utilization as subcontractors of (i) small business concerns, and (ii) small business concerns owned and controlled by socially and economically disadvantaged individuals;
  - (2) the name of an individual within the employ of the bidder who will administer the subcontracting program of the bidder and a description of the duties of such individual;
  - (3) a description of the efforts the bidder will take to assure that small business concerns and small business concerns owned and controlled by the socially and economically disadvantaged individuals will have an equitable opportunity to compete for subcontracts;

- (4) assurances that the bidder will include the "Utilization of Small and Disadvantaged Small Business Concerns" clause in all subcontracts which offer further subcontracting opportunities, and that the bidder will require all subcontractors (except small business concerns) who receive subcontracts in excess of \$1,000,000 in the case of a contract for the construction of any public facility, or in excess of \$500,000 in the case of all other contracts, to adopt a plan similar to the plan required hereunder;
- (5) assurances that the bidder will submit such periodic reports and cooperate in any studies or surveys as may be required by the Department of Energy or the Small Business Administration in order to determine the extent of compliance by the bidder with the subcontracting plan; and
- (6) a recitation of the types of records the bidder will maintain to demonstrate procedures which have been adopted to comply with the requirements and goals set forth in this plan, including the establishment of source lists of small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals; and efforts to identify and award subcontracts to such small business concerns.

STANDARD FEDERAL EQUAL  
EMPLOYMENT OPPORTUNITY CONSTRUCTION  
CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
  - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
  - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
  - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941.
  - d. "Minority" includes:
    - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
    - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
    - (iii) 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); and
    - (iv) 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).

APR 01 1973

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U. S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO 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 covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

APR 01 1970



6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such 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.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
  - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site 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 such sites or in such facilities.
  - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
  - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

17 01 1972

- d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person 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.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which 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 complied under 7b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any 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.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the

Contractor's EEO policy with other Contractors and Sub-contractors with whom the Contractor does or anticipates doing business.

- i. Direct its 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 one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. 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 EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

APR 01 1979

- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
  - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, 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 non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

APR 01 1977

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, 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, Contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of 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).

198 02 173

|   |   |
|---|---|
| PRINCIPAL (Legal name and business address) | TYPE OF ORGANIZATION ("X" one)<br><input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> PARTNERSHIP<br><input type="checkbox"/> JOINT <input type="checkbox"/> CORPORATION<br>STATE OF INCORPORATION |
|---|---|

SURETY(IES) (Name and business address)

| PENAL SUM OF BOND    |                      |             |            | BID IDENTIFICATION |  |                |
|----------------------|----------------------|-------------|------------|--------------------|--|----------------|
| PERCENT OF BID PRICE | AMOUNT NOT TO EXCEED |             |            |                    | BID DATE                                 | INVITATION NO. |
|                      | MILLION(S)           | THOUSAND(S) | HUNDRED(S) | CENTS              |  |                |
|                      |                      |             |            |                    | FOR (Construction, Supplies or Services) |                |

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government) and Townsend and Bottum, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the bid identified above.

NOW, THEREFORE, if the Principal, upon acceptance by the Government of his bid identified above, within the period specified therein for acceptance (sixty (60) days if no period specified), shall execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (ten (10) days if no period is specified) after receipt of the forms by him, or in the event of failure so to execute such further contractual documents and give such bonds, if the Principal shall pay the Government for any cost of procuring the work which exceeds the amount of his bid, then the above obligation shall be void and of no effect.

Each Surety executing this instrument hereby agrees that its obligation shall not be impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the Government, notice of which extension(s) to the Surety(ies) being hereby waived; provided that such waiver of notice shall apply only with respect to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this bid bond and have affixed their seals on the date set forth above.

| PRINCIPAL                            |        |        |                |
|--------------------------------------|--------|--------|----------------|
| Signature(s)                         | 1.     | 2.     | Corporate Seal |
|                                      | (Seal) | (Seal) |                |
| Name(s) & Title(s)<br><i>(Typed)</i> | 1.     | 2.     |                |

| INDIVIDUAL SURETY(IES)    |        |        |        |
|---------------------------|--------|--------|--------|
| Signature(s)              | 1.     | 2.     | (Seal) |
|                           | (Seal) | (Seal) |        |
| Name(s)<br><i>(Typed)</i> | 1.     | 2.     |        |

| CORPORATE SURETY(IES) |                                      |    |               |                 |
|-----------------------|--------------------------------------|----|---------------|-----------------|
| SURETY A              | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT |
|                       | Signature(s)                         | 1. | 2.            | Corporate Seal  |
|                       | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |

**CORPORATE SURETY(IES) (Continued)**

| SURETY B | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|----------|--------------------------------------|---------------|-----------------|----------------|
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY C | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY D | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY E | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY F | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY G | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |

**INSTRUCTIONS**

1. This form is authorized for use whenever a bid guaranty is required in connection with construction work or the furnishing of supplies or services. There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. The penal sum of the bond may be expressed as a percentage of the bid price if desired. In such cases, a maximum dollar limitation may be stipulated (e.g., 20% of the bid price but the amount not to exceed \_\_\_\_\_ dollars).

4. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth

therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)," and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal;" and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

6. The name of each person signing this bid bond should be typed in the space provided.

|  |                                      |             |               |   |                 |  |   |
|--|--------------------------------------|-------------|---------------|---|-----------------|--|---|
| <b>STANDARD FORM 24</b><br>FEBRUARY 1980 EDITION<br>GENERAL SERVICES ADMINISTRATION<br>FED. PROC. REG. (41 CFR) 1-16.801   |                                      |             |               | <b>BID BOND</b><br><i>(See Instructions on reverse)</i> |                 | 24-103   | DATE BOND EXECUTED <i>(Must not be later than bid opening date)</i> |
| PRINCIPAL <i>(Legal name and business address)</i>   |                                      |             |               |   |                 | TYPE OF ORGANIZATION ("X" one)<br><input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> PARTNERSHIP<br><input type="checkbox"/> JOINT <input type="checkbox"/> CORPORATION<br><input type="checkbox"/> VENTURE <input type="checkbox"/> CORPORATION<br>STATE OF INCORPORATION |   |
| SURETY(IES) <i>(Name and business address)</i>   |                                      |             |               |   |                 |  |   |
| <b>PENAL SUM OF BOND</b>   |                                      |             |               | <b>BID IDENTIFICATION</b>                               |                 |  |   |
| PERCENT OF BID PRICE   | AMOUNT NOT TO EXCEED                 |             |               |   | BID DATE        | INVITATION NO.   |   |
|  | MILLION(S)                           | THOUSAND(S) | HUNDRED(S)    | CENTS   |                 |  |   |
| <p>KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government) and Townsend and Bottum, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: <i>Provided</i>, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.</p> <p>THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the bid identified above.</p> <p>NOW, THEREFORE, if the Principal, upon acceptance by the Government of his bid identified above, within the period specified therein for acceptance (sixty (60) days if no period specified), shall execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (ten (10) days if no period is specified) after receipt of the forms by him, or in the event of failure so to execute such further contractual documents and give such bonds, if the Principal shall pay the Government for any cost of procuring the work which exceeds the amount of his bid, then the above obligation shall be void and of no effect.</p> <p>Each Surety executing this instrument hereby agrees that its obligation shall not be impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the Government, notice of which extension(s) to the Surety(ies) being hereby waived; provided that such waiver of notice shall apply only with respect to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.</p> <p>IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this bid bond and have affixed their seals on the date set forth above.</p> |                                      |             |               |   |                 |  |   |
| <b>PRINCIPAL</b>   |                                      |             |               |   |                 |  |   |
| Signature(s)   | 1.                                   |             | 2.            |   | Corporate Seal  |  |   |
|  | <i>(Seal)</i>                        |             | <i>(Seal)</i> |   |                 |  |   |
| Name(s) & Title(s)<br><i>(Typed)</i>   | 1.                                   |             | 2.            |   |                 |  |   |
| <b>INDIVIDUAL SURETY(IES)</b>  |                                      |             |               |   |                 |  |   |
| Signature(s)   | 1.                                   |             | 2.            |   | Corporate Seal  |  |   |
|  | <i>(Seal)</i>                        |             | <i>(Seal)</i> |   |                 |  |   |
| Name(s)<br><i>(Typed)</i>  | 1.                                   |             | 2.            |   |                 |  |   |
| <b>CORPORATE SURETY(IES)</b>   |                                      |             |               |   |                 |  |   |
| <b>SURETY A</b>  | Name & Address                       |             |               | STATE OF INC.   | LIABILITY LIMIT |  | Corporate Seal  |
|  | Signature(s)                         | 1.          |               | 2.  |                 |  |   |
|  | Name(s) & Title(s)<br><i>(Typed)</i> | 1.          |               | 2.  |                 |  |   |



**CORPORATE SURETY(IES) (Continued)**

| SURETY B                             |    | Name & Address | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|--------------------------------------|----|----------------|---------------|-----------------|----------------|
|                                      |    | Signature(s)   | 1.            | 2.              |                |
| Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.             |               |                 |                |
| SURETY C                             |    | Name & Address | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|                                      |    | Signature(s)   | 1.            | 2.              |                |
| Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.             |               |                 |                |
| SURETY D                             |    | Name & Address | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|                                      |    | Signature(s)   | 1.            | 2.              |                |
| Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.             |               |                 |                |
| SURETY E                             |    | Name & Address | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|                                      |    | Signature(s)   | 1.            | 2.              |                |
| Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.             |               |                 |                |
| SURETY F                             |    | Name & Address | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|                                      |    | Signature(s)   | 1.            | 2.              |                |
| Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.             |               |                 |                |
| SURETY G                             |    | Name & Address | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|                                      |    | Signature(s)   | 1.            | 2.              |                |
| Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.             |               |                 |                |

**INSTRUCTIONS**

1. This form is authorized for use whenever a bid guaranty is required in connection with construction work or the furnishing of supplies or services. There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. The penal sum of the bond may be expressed as a percentage of the bid price if desired. In such cases, a maximum dollar limitation may be stipulated (e.g., 20% of the bid price but the amount not to exceed \_\_\_\_\_ dollars).

4. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth

therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)," and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal;" and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

6. The name of each person signing this bid bond should be typed in the space provided.

**BID BOND**

(See Instructions on reverse)

24-103

DATE BOND EXECUTED (Must not be later than bid opening date)

PRINCIPAL (Legal name and business address)

TYPE OF ORGANIZATION ("X" one)

- INDIVIDUAL       PARTNERSHIP  
 JOINT               CORPORATION  
 VENTURE

STATE OF INCORPORATION

SURETY(IES) (Name and business address)

**PENAL SUM OF BOND**

**BID IDENTIFICATION**

| PERCENT OF BID PRICE | AMOUNT NOT TO EXCEED |             |            |       | BID DATE                                 | INVITATION NO. |
|----------------------|----------------------|-------------|------------|-------|--|----------------|
|                      | MILLION(S)           | THOUSAND(S) | HUNDRED(S) | CENTS |  |                |
|                      |                      |             |            |       | FOR (Construction, Supplies or Services) |                |

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government) and Townsend and Bottum, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the bid identified above.

NOW, THEREFORE, if the Principal, upon acceptance by the Government of his bid identified above, within the period specified therein for acceptance (sixty (60) days if no period specified), shall execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (ten (10) days if no period is specified) after receipt of the forms by him, or in the event of failure so to execute such further contractual documents and give such bonds, if the Principal shall pay the Government for any cost of procuring the work which exceeds the amount of his bid, then the above obligation shall be void and of no effect.

Each Surety executing this instrument hereby agrees that its obligation shall not be impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the Government, notice of which extension(s) to the Surety(ies) being hereby waived; provided that such waiver of notice shall apply only with respect to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this bid bond and have affixed their seals on the date set forth above.

**PRINCIPAL**

|                               |    |    |                |
|-------------------------------|----|----|----------------|
| Signature(s)                  | 1. | 2. | Corporate Seal |
|                               |    |    |                |
| Name(s) & Title(s)<br>(Typed) | 1. | 2. |                |
|                               |    |    |                |

**INDIVIDUAL SURETY(IES)**

|                    |    |    |
|--------------------|----|----|
| Signature(s)       | 1. | 2. |
|                    |    |    |
| Name(s)<br>(Typed) | 1. | 2. |
|                    |    |    |

**CORPORATE SURETY(IES)**

|          |                               |               |                 |                |
|----------|-------------------------------|---------------|-----------------|----------------|
| SURETY A | Name & Address                | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                  | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br>(Typed) | 1.            | 2.              |                |

**CORPORATE SURETY(IES) (Continued)**

| SURETY B | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|----------|--------------------------------------|---------------|----|-----------------|----------------|
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY C | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY D | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY E | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY F | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY G | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |

**INSTRUCTIONS**

1. This form is authorized for use whenever a bid guaranty is required in connection with construction work or the furnishing of supplies or services. There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. The penal sum of the bond may be expressed as a percentage of the bid price if desired. In such cases, a maximum dollar limitation may be stipulated (e.g., 20% of the bid price but the amount not to exceed \_\_\_\_\_ dollars).

4. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth

therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)," and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal;" and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

6. The name of each person signing this bid bond should be typed in the space provided.

**BID BOND**

24-103

DATE BOND EXECUTED (Must not be later than bid opening date)

(See Instructions on reverse)

PRINCIPAL (Legal name and business address)

TYPE OF ORGANIZATION ("X" one)

- INDIVIDUAL       PARTNERSHIP  
 JOINT  
 VENTURE       CORPORATION

STATE OF INCORPORATION

SURETY(IES) (Name and business address)

**PENAL SUM OF BOND**

**BID IDENTIFICATION**

| PERCENT OF BID PRICE | AMOUNT NOT TO EXCEED |             |            |       | BID DATE                                 | INVITATION NO. |
|----------------------|----------------------|-------------|------------|-------|--|----------------|
|                      | MILLION(S)           | THOUSAND(S) | HUNDRED(S) | CENTS |  |                |
|                      |                      |             |            |       |  |                |
|                      |                      |             |            |       | FOR (Construction, Supplies or Services) |                |

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government) and Townsend and Bottum, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the bid identified above.

NOW, THEREFORE, if the Principal, upon acceptance by the Government of his bid identified above, within the period specified therein for acceptance (sixty (60) days if no period specified), shall execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (ten (10) days if no period is specified) after receipt of the forms by him, or in the event of failure so to execute such further contractual documents and give such bonds, if the Principal shall pay the Government for any cost of procuring the work which exceeds the amount of his bid, then the above obligation shall be void and of no effect.

Each Surety executing this instrument hereby agrees that its obligation shall not be impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the Government, notice of which extension(s) to the Surety(ies) being hereby waived; provided that such waiver of notice shall apply only with respect to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this bid bond and have affixed their seals on the date set forth above.

**PRINCIPAL**

|                               |    |    |                |
|-------------------------------|----|----|----------------|
| Signature(s)                  | 1. | 2. | Corporate Seal |
|                               |    |    |                |
| Name(s) & Title(s)<br>(Typed) | 1. | 2. |                |
|                               |    |    |                |

**INDIVIDUAL SURETY(IES)**

|                    |    |    |
|--------------------|----|----|
| Signature(s)       | 1. | 2. |
|                    |    |    |
| Name(s)<br>(Typed) | 1. | 2. |
|                    |    |    |

**CORPORATE SURETY(IES)**

| SURETY A | Name & Address                | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|----------|-------------------------------|---------------|-----------------|----------------|
|          | Signature(s)                  | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br>(Typed) | 1.            | 2.              |                |

**CORPORATE SURETY(IES) (Continued)**

|                 |                                      | Name & Address |    | STATE OF INC. | LIABILITY LIMIT |                       |
|-----------------|--------------------------------------|----------------|----|---------------|-----------------|-----------------------|
|                 |                                      | 1.             | 2. |               |                 |                       |
| <b>SURETY B</b> | Signature(s)                         |                |    |               |                 | <i>Corporate Seal</i> |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> |                |    |               |                 |                       |
|                 | Name & Address                       |                |    | STATE OF INC. | LIABILITY LIMIT |                       |
| <b>SURETY C</b> | Signature(s)                         |                |    |               |                 | <i>Corporate Seal</i> |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> |                |    |               |                 |                       |
|                 | Name & Address                       |                |    | STATE OF INC. | LIABILITY LIMIT |                       |
| <b>SURETY D</b> | Signature(s)                         |                |    |               |                 | <i>Corporate Seal</i> |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> |                |    |               |                 |                       |
|                 | Name & Address                       |                |    | STATE OF INC. | LIABILITY LIMIT |                       |
| <b>SURETY E</b> | Signature(s)                         |                |    |               |                 | <i>Corporate Seal</i> |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> |                |    |               |                 |                       |
|                 | Name & Address                       |                |    | STATE OF INC. | LIABILITY LIMIT |                       |
| <b>SURETY F</b> | Signature(s)                         |                |    |               |                 | <i>Corporate Seal</i> |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> |                |    |               |                 |                       |
|                 | Name & Address                       |                |    | STATE OF INC. | LIABILITY LIMIT |                       |
| <b>SURETY G</b> | Signature(s)                         |                |    |               |                 | <i>Corporate Seal</i> |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> |                |    |               |                 |                       |
|                 | Name & Address                       |                |    | STATE OF INC. | LIABILITY LIMIT |                       |

**INSTRUCTIONS**

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2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. The penal sum of the bond may be expressed as a percentage of the bid price if desired. In such cases, a maximum dollar limitation may be stipulated (e.g., 20% of the bid price but the amount not to exceed \_\_\_\_\_ dollars).

4. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth

therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)," and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal;" and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

6. The name of each person signing this bid bond should be typed in the space provided.

**BID BOND**

(See Instructions on reverse)

24-103

DATE BOND EXECUTED (Must not be later than bid opening date)

PRINCIPAL (Legal name and business address)

TYPE OF ORGANIZATION ("X" one)

- INDIVIDUAL       PARTNERSHIP  
 JOINT  
 VENTURE           CORPORATION

STATE OF INCORPORATION

SURETY(IES) (Name and business address)

**PENAL SUM OF BOND**

**BID IDENTIFICATION**

| PERCENT OF BID PRICE                     | AMOUNT NOT TO EXCEED |             |            |       | BID DATE | INVITATION NO. |
|--|----------------------|-------------|------------|-------|----------|----------------|
|  | MILLION(S)           | THOUSAND(S) | HUNDRED(S) | CENTS |          |                |
|  |                      |             |            |       |          |                |
| FOR (Construction, Supplies or Services) |                      |             |            |       |          |                |

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government) and Townsend and Bottum, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the bid identified above.

NOW, THEREFORE, if the Principal, upon acceptance by the Government of his bid identified above, within the period specified therein for acceptance (sixty (60) days if no period specified), shall execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (ten (10) days if no period is specified) after receipt of the forms by him, or in the event of failure so to execute such further contractual documents and give such bonds, if the Principal shall pay the Government for any cost of procuring the work which exceeds the amount of his bid, then the above obligation shall be void and of no effect.

Each Surety executing this instrument hereby agrees that its obligation shall not be impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the Government, notice of which extension(s) to the Surety(ies) being hereby waived; provided that such waiver of notice shall apply only with respect to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this bid bond and have affixed their seals on the date set forth above.

**PRINCIPAL**

|                               |    |        |                |
|-------------------------------|----|--------|----------------|
| Signature(s)                  | 1. | 2.     | Corporate Seal |
|                               |    | (Seal) |                |
| Name(s) & Title(s)<br>(Typed) | 1. | 2.     |                |
|                               |    |        |                |

**INDIVIDUAL SURETY(IES)**

|                    |    |        |
|--------------------|----|--------|
| Signature(s)       | 1. | 2.     |
|                    |    | (Seal) |
| Name(s)<br>(Typed) | 1. | 2.     |
|                    |    |        |

**CORPORATE SURETY(IES)**

| SURETY A | Name & Address                | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |  |
|----------|-------------------------------|---------------|-----------------|----------------|--|
|          | Signature(s)                  | 1.            | 2.              |                |  |
|          | Name(s) & Title(s)<br>(Typed) | 1.            | 2.              |                |  |

**CORPORATE SURETY(IES) (Continued)**

| SURETY B | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|----------|--------------------------------------|---------------|----|-----------------|----------------|
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY C | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY D | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY E | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY F | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY G | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |

**INSTRUCTIONS**

1. This form is authorized for use whenever a bid guaranty is required in connection with construction work or the furnishing of supplies or services. There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. The penal sum of the bond may be expressed as a percentage of the bid price if desired. In such cases, a maximum dollar limitation may be stipulated (e.g., 20% of the bid price but the amount not to exceed \_\_\_\_\_ dollars).

4. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth

therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)," and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

5. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal;" and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

6. The name of each person signing this bid bond should be typed in the space provided.

**PERFORMANCE BOND**  
 (See Instructions on reverse)

DATE BOND EXECUTED (Must be same or later than date of contract)

PRINCIPAL (Legal name and business address)

TYPE OF ORGANIZATION ("X" one)

- INDIVIDUAL       PARTNERSHIP  
 JOINT VENTURE       CORPORATION

STATE OF INCORPORATION

SURETY(IES) (Name and business address)

**PENAL SUM OF BOND**

|            |             |            |       |
|------------|-------------|------------|-------|
| MILLION(S) | THOUSAND(S) | HUNDRED(S) | CENTS |
|------------|-------------|------------|-------|

CONTRACT DATE

CONTRACT NO.

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government), and Townsend and Bottom, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into the contract identified above;

NOW, THEREFORE, if the Principal shall:

(a) Perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Government, with or without notice to Surety(ies), and during the life of any guaranty required under the contract, and shall also perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety(ies) being hereby waived; and

(b) If the said contract is subject to the Miller Act, as amended (40 U.S.C. 270a-270e), pay to the government the full amount of the taxes imposed by the Government which are collected, deducted, or withheld from wages paid by the Principal in carrying out the construction contract with respect to which this bond is furnished; then the above obligation shall be void and of no effect.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this performance bond and have affixed their seals on the date set forth above.

**PRINCIPAL**

|                               |    |    |                |
|-------------------------------|----|----|----------------|
| Signature(s)                  | 1. | 2. | Corporate Seal |
|                               |    |    |                |
| Name(s) & Title(s)<br>(Typed) | 1. | 2. | Corporate Seal |
|                               |    |    |                |

**INDIVIDUAL SURETY(IES)**

|                    |    |    |
|--------------------|----|----|
| Signature(s)       | 1. | 2. |
|                    |    |    |
| Name(s)<br>(Typed) | 1. | 2. |
|                    |    |    |

**CORPORATE SURETY(IES)**

|          |                               |               |                 |                |
|----------|-------------------------------|---------------|-----------------|----------------|
| SURETY A | Name & Address                | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                  | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br>(Typed) | 1.            | 2.              |                |



**CORPORATE SURETY(IES) (Continued)**

|                 |                                      |    |               |                 |                       |
|-----------------|--------------------------------------|----|---------------|-----------------|-----------------------|
| <b>SURETY B</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY C</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY D</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY E</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY F</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY G</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |

|              |                         |             |
|--------------|-------------------------|-------------|
| BOND PREMIUM | RATE PER THOUSAND<br>\$ | TOTAL<br>\$ |
|--------------|-------------------------|-------------|

**INSTRUCTIONS**

1. This form is authorized for use in connection with contracts for construction work or the furnishing of supplies or services. There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the

spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)", and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal"; and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

5. The name of each person signing this performance bond should be typed in the space provided.

**PERFORMANCE BOND**  
 (See Instructions on reverse)

DATE BOND EXECUTED (Must be same or later than date of contract)

PRINCIPAL (Legal name and business address)

TYPE OF ORGANIZATION ("X" one)

- INDIVIDUAL       PARTNERSHIP  
 JOINT VENTURE       CORPORATION

STATE OF INCORPORATION

SURETY(IES) (Name and business address)

**PENAL SUM OF BOND**

|            |             |            |       |
|------------|-------------|------------|-------|
| MILLION(S) | THOUSAND(S) | HUNDRED(S) | CENTS |
|------------|-------------|------------|-------|

CONTRACT DATE

CONTRACT NO.

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government), and Townsend and Bottom, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into the contract identified above;

NOW, THEREFORE, if the Principal shall:

(a) Perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Government, with or without notice to Surety(ies), and during the life of any guaranty required under the contract, and shall also perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety(ies) being hereby waived; and

(b) If the said contract is subject to the Miller Act, as amended (40 U.S.C. 270a-270e), pay to the government the full amount of the taxes imposed by the Government which are collected, deducted, or withheld from wages paid by the Principal in carrying out the construction contract with respect to which this bond is furnished; then the above obligation shall be void and of no effect.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this performance bond and have affixed their seals on the date set forth above.

**PRINCIPAL**

|                               |        |        |                |
|-------------------------------|--------|--------|----------------|
| Signature(s)                  | 1.     | 2.     | Corporate Seal |
|                               | (Seal) | (Seal) |                |
| Name(s) & Title(s)<br>(Typed) | 1.     | 2.     | Corporate Seal |

**INDIVIDUAL SURETY(IES)**

|                    |        |        |
|--------------------|--------|--------|
| Signature(s)       | 1.     | 2.     |
|                    | (Seal) | (Seal) |
| Name(s)<br>(Typed) | 1.     | 2.     |

**CORPORATE SURETY(IES)**

|          |                               |               |                 |                |
|----------|-------------------------------|---------------|-----------------|----------------|
| SURETY A | Name & Address                | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                  | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br>(Typed) | 1.            | 2.              |                |

**CORPORATE SURETY(IES) (Continued)**

| SURETY B | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|----------|--------------------------------------|----|---------------|-----------------|-----------------------|
|          | Signature(s)                         | 1. | 2.            |                 |                       |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| SURETY C | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|          | Signature(s)                         | 1. | 2.            |                 |                       |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| SURETY D | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|          | Signature(s)                         | 1. | 2.            |                 |                       |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| SURETY E | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|          | Signature(s)                         | 1. | 2.            |                 |                       |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| SURETY F | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|          | Signature(s)                         | 1. | 2.            |                 |                       |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| SURETY G | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|          | Signature(s)                         | 1. | 2.            |                 |                       |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |

|              |                      |          |
|--------------|----------------------|----------|
| BOND PREMIUM | RATE PER THOUSAND \$ | TOTAL \$ |
|--------------|----------------------|----------|

**INSTRUCTIONS**

1. This form is authorized for use in connection with contracts for construction work or the furnishing of supplies or services. There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the

spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)", and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal"; and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

5. The name of each person signing this performance bond should be typed in the space provided.

**PERFORMANCE BOND**  
(See Instructions on reverse)

DATE BOND EXECUTED (Must be same or later than date of contract)

PRINCIPAL (Legal name and business address)

TYPE OF ORGANIZATION ("X" one)

- INDIVIDUAL       PARTNERSHIP  
 JOINT VENTURE       CORPORATION

STATE OF INCORPORATION

SURETY(IES) (Name and business address)

**PENAL SUM OF BOND**

|            |             |            |       |
|------------|-------------|------------|-------|
| MILLION(S) | THOUSAND(S) | HUNDRED(S) | CENTS |
|------------|-------------|------------|-------|

CONTRACT DATE

CONTRACT NO.

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government), and Townsend and Bottom, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into the contract identified above;

NOW, THEREFORE, if the Principal shall:

(a) Perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Government, with or without notice to Surety(ies), and during the life of any guaranty required under the contract, and shall also perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety(ies) being hereby waived; and

(b) If the said contract is subject to the Miller Act, as amended (40 U.S.C. 270a-270e), pay to the government the full amount of the taxes imposed by the Government which are collected, deducted, or withheld from wages paid by the Principal in carrying out the construction contract with respect to which this bond is furnished; then the above obligation shall be void and of no effect.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this performance bond and have affixed their seals on the date set forth above.

**PRINCIPAL**

|                               |    |        |                |
|-------------------------------|----|--------|----------------|
| Signature(s)                  | 1. | 2.     | Corporate Seal |
|                               |    | (Seal) |                |
| Name(s) & Title(s)<br>(Typed) | 1. | 2.     |                |
|                               |    |        |                |

**INDIVIDUAL SURETY(IES)**

|                    |    |        |
|--------------------|----|--------|
| Signature(s)       | 1. | 2.     |
|                    |    | (Seal) |
| Name(s)<br>(Typed) | 1. | 2.     |
|                    |    |        |

**CORPORATE SURETY(IES)**

|          |                               |               |                 |                |
|----------|-------------------------------|---------------|-----------------|----------------|
| SURETY A | Name & Address                | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                  | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br>(Typed) | 1.            | 2.              |                |

**CORPORATE SURETY(IES) (Continued)**

|                 |                                      |    |               |                 |                       |
|-----------------|--------------------------------------|----|---------------|-----------------|-----------------------|
| <b>SURETY B</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY C</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY D</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY E</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY F</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY G</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |

|              |                         |             |
|--------------|-------------------------|-------------|
| BOND PREMIUM | RATE PER THOUSAND<br>\$ | TOTAL<br>\$ |
|--------------|-------------------------|-------------|

**INSTRUCTIONS**

1. This form is authorized for use in connection with contracts for construction work or the furnishing of supplies or services. There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the

spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)", and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal"; and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

5. The name of each person signing this performance bond should be typed in the space provided.

**PERFORMANCE BOND**  
 (See Instructions on reverse)

DATE BOND EXECUTED (Must be same or later than date of contract)

PRINCIPAL (Legal name and business address)

TYPE OF ORGANIZATION ("X" one)

- INDIVIDUAL       PARTNERSHIP  
 JOINT VENTURE       CORPORATION

STATE OF INCORPORATION

SURETY(IES) (Name and business address)

**PENAL SUM OF BOND**

|            |             |            |       |
|------------|-------------|------------|-------|
| MILLION(S) | THOUSAND(S) | HUNDRED(S) | CENTS |
|------------|-------------|------------|-------|

|               |              |
|---------------|--------------|
| CONTRACT DATE | CONTRACT NO. |
|---------------|--------------|

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government), and Townsend and Bottom, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into the contract identified above;

NOW, THEREFORE, if the Principal shall:

(a) Perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Government, with or without notice to Surety(ies), and during the life of any guaranty required under the contract, and shall also perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety(ies) being hereby waived; and

(b) If the said contract is subject to the Miller Act, as amended (40 U.S.C. 270a-270e), pay to the government the full amount of the taxes imposed by the Government which are collected, deducted, or withheld from wages paid by the Principal in carrying out the construction contract with respect to which this bond is furnished; then the above obligation shall be void and of no effect.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this performance bond and have affixed their seals on the date set forth above.

**PRINCIPAL**

|                               |    |    |                |
|-------------------------------|----|----|----------------|
| Signature(s)                  | 1. | 2. | Corporate Seal |
|                               |    |    |                |
| Name(s) & Title(s)<br>(Typed) | 1. | 2. |                |
|                               |    |    |                |

**INDIVIDUAL SURETY(IES)**

|                    |    |    |
|--------------------|----|----|
| Signature(s)       | 1. | 2. |
|                    |    |    |
| Name(s)<br>(Typed) | 1. | 2. |
|                    |    |    |

**CORPORATE SURETY(IES)**

|          |                               |               |                 |                |
|----------|-------------------------------|---------------|-----------------|----------------|
| SURETY A | Name & Address                | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                  | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br>(Typed) | 1.            | 2.              |                |

**CORPORATE SURETY(IES) (Continued)**

| SURETY B | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|----------|--------------------------------------|---------------|----|-----------------|----------------|
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY C | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY D | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY E | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY F | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |
| SURETY G | Name & Address                       | STATE OF INC. |    | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2. |                 |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2. |                 |                |

|              |   |                         |             |
|--------------|---|-------------------------|-------------|
| BOND PREMIUM | ▶ | RATE PER THOUSAND<br>\$ | TOTAL<br>\$ |
|--------------|---|-------------------------|-------------|

**INSTRUCTIONS**

1. This form is authorized for use in connection with contracts for construction work or the furnishing of supplies or services. There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the

spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)", and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal"; and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

5. The name of each person signing this performance bond should be typed in the space provided.

**PERFORMANCE BOND**  
*(See Instructions on reverse)*

DATE BOND EXECUTED *(Must be same or later than date of contract)*

PRINCIPAL *(Legal name and business address)*

TYPE OF ORGANIZATION ("X" one)

- INDIVIDUAL       PARTNERSHIP  
 JOINT VENTURE       CORPORATION

STATE OF INCORPORATION

SURETY(IES) *(Name and business address)*

**PENAL SUM OF BOND**

MILLION(S)      THOUSAND(S)      HUNDRED(S)      CENTS

CONTRACT DATE

CONTRACT NO.

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government), and Townsend and Bottom, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into the contract identified above;

NOW, THEREFORE, if the Principal shall:

(a) Perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Government, with or without notice to Surety(ies), and during the life of any guaranty required under the contract, and shall also perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety(ies) being hereby waived; and

(b) If the said contract is subject to the Miller Act, as amended (40 U.S.C. 270a-270e), pay to the government the full amount of the taxes imposed by the Government which are collected, deducted, or withheld from wages paid by the Principal in carrying out the construction contract with respect to which this bond is furnished; then the above obligation shall be void and of no effect.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this performance bond and have affixed their seals on the date set forth above.

**PRINCIPAL**

|                                      |    |               |                |
|--------------------------------------|----|---------------|----------------|
| Signature(s)                         | 1. | 2.            | Corporate Seal |
|                                      |    | <i>(Seal)</i> |                |
| Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            | Corporate Seal |
|                                      |    |               |                |

**INDIVIDUAL SURETY(IES)**

|                           |    |               |
|---------------------------|----|---------------|
| Signature(s)              | 1. | 2.            |
|                           |    | <i>(Seal)</i> |
| Name(s)<br><i>(Typed)</i> | 1. | 2.            |
|                           |    |               |

**CORPORATE SURETY(IES)**

|          |                                      |               |                 |                |
|----------|--------------------------------------|---------------|-----------------|----------------|
| SURETY A | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |



**CORPORATE SURETY(IES) (Continued)**

|                 |                                      |    |               |                 |                       |
|-----------------|--------------------------------------|----|---------------|-----------------|-----------------------|
| <b>SURETY B</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY C</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY D</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY E</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY F</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY G</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |

|              |                         |             |
|--------------|-------------------------|-------------|
| BOND PREMIUM | RATE PER THOUSAND<br>\$ | TOTAL<br>\$ |
|--------------|-------------------------|-------------|

**INSTRUCTIONS**

1. This form is authorized for use in connection with contracts for construction work or the furnishing of supplies or services. There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of this form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the

spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)", and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal"; and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

5. The name of each person signing this performance bond should be typed in the space provided.

|  |  |
|--|--|
| PRINCIPAL <i>(Legal name and business address)</i> | TYPE OF ORGANIZATION <i>("X" one)</i><br><input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> PARTNERSHIP<br><input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> CORPORATION<br>STATE OF INCORPORATION |
|--|--|

|  |  |               |              |            |       |  |  |  |  |
|--|--|---------------|--------------|------------|-------|--|--|--|--|
| SURETY(IES) <i>(Name and business address)</i> | <b>PENAL SUM OF BOND</b>   |               |              |            |       |  |  |  |  |
|  | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:25%;">MILLION(S)</td> <td style="width:25%;">THOUSAND(S)</td> <td style="width:25%;">HUNDRED(S)</td> <td style="width:25%;">CENTS</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> | MILLION(S)    | THOUSAND(S)  | HUNDRED(S) | CENTS |  |  |  |  |
| MILLION(S)                                     | THOUSAND(S)  | HUNDRED(S)    | CENTS        |            |       |  |  |  |  |
|  |  |               |              |            |       |  |  |  |  |
|  | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">CONTRACT DATE</td> <td style="width:50%;">CONTRACT NO.</td> </tr> <tr> <td> </td> <td> </td> </tr> </table>  | CONTRACT DATE | CONTRACT NO. |            |       |  |  |  |  |
| CONTRACT DATE                                  | CONTRACT NO.   |               |              |            |       |  |  |  |  |
|  |  |               |              |            |       |  |  |  |  |

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government) and Townsend and Bottum, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal entered into the contract identified above;

NOW, THEREFORE, if the Principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety(ies) being hereby waived, then the above obligation shall be void and of no effect.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this payment bond and have affixed their seals on the date set forth above.

| PRINCIPAL              |                                      |                           |                           |                                    |
|------------------------|--------------------------------------|---------------------------|---------------------------|------------------------------------|
|                        | Signature(s)                         | 1. _____<br><i>(Seal)</i> | 2. _____<br><i>(Seal)</i> | Corporate Seal                     |
|                        | Name(s) & Title(s)<br><i>(Typed)</i> | 1. _____                  | 2. _____                  |                                    |
| INDIVIDUAL SURETY(IES) |                                      |                           |                           |                                    |
|                        | Signature(s)                         | 1. _____<br><i>(Seal)</i> | 2. _____<br><i>(Seal)</i> |                                    |
|                        | Name(s)<br><i>(Typed)</i>            | 1. _____                  | 2. _____                  |                                    |
| CORPORATE SURETY(IES)  |                                      |                           |                           |                                    |
| SURETY A               | Name & Address                       |                           |                           | STATE OF INC.      LIABILITY LIMIT |
|                        | Signature(s)                         | 1. _____                  | 2. _____                  | Corporate Seal                     |
|                        | Name(s) & Title(s)<br><i>(Typed)</i> | 1. _____                  | 2. _____                  |                                    |

**CORPORATE SURETY(IES) (Continued)**

| SURETY B | Name & Address             | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|----------|----------------------------|---------------|-----------------|----------------|
|          | Signature(s)               | 1.            | 2.              |                |
|          | Name(s) & Title(s) (Typed) | 1.            | 2.              |                |
| SURETY C | Name & Address             | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)               | 1.            | 2.              |                |
|          | Name(s) & Title(s) (Typed) | 1.            | 2.              |                |
| SURETY D | Name & Address             | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)               | 1.            | 2.              |                |
|          | Name(s) & Title(s) (Typed) | 1.            | 2.              |                |
| SURETY E | Name & Address             | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)               | 1.            | 2.              |                |
|          | Name(s) & Title(s) (Typed) | 1.            | 2.              |                |
| SURETY F | Name & Address             | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)               | 1.            | 2.              |                |
|          | Name(s) & Title(s) (Typed) | 1.            | 2.              |                |
| SURETY G | Name & Address             | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)               | 1.            | 2.              |                |
|          | Name(s) & Title(s) (Typed) | 1.            | 2.              |                |

**INSTRUCTIONS**

1. This form, for the protection of persons supplying labor and material, shall be used whenever a payment bond is required under the act of August 24, 1935, 49 Stat. 793, as amended (40 U.S.C. 270a-270e). There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of the form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the

spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)", and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal"; and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

5. The name of each person signing this payment bond should be typed in the space provided.

**PAYMENT BOND**  
 (See Instructions on reverse)

24-203

DATE BOND EXECUTED (Must be same or later than date of contract)

PRINCIPAL (Legal name and business address)

TYPE OF ORGANIZATION ("X" one)

- INDIVIDUAL       PARTNERSHIP  
 JOINT VENTURE       CORPORATION

STATE OF INCORPORATION

SURETY(IES) (Name and business address)

**PENAL SUM OF BOND**

|            |             |            |       |
|------------|-------------|------------|-------|
| MILLION(S) | THOUSAND(S) | HUNDRED(S) | CENTS |
|------------|-------------|------------|-------|

CONTRACT DATE

CONTRACT NO.

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government) and Townsend and Bottum, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal entered into the contract identified above;

NOW, THEREFORE, if the Principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety(ies) being hereby waived, then the above obligation shall be void and of no effect.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this payment bond and have affixed their seals on the date set forth above.

**PRINCIPAL**

|                               |    |    |                |
|-------------------------------|----|----|----------------|
| Signature(s)                  | 1. | 2. | Corporate Seal |
|                               |    |    |                |
| Name(s) & Title(s)<br>(Typed) | 1. | 2. |                |
|                               |    |    |                |

**INDIVIDUAL SURETY(IES)**

|                    |    |    |
|--------------------|----|----|
| Signature(s)       | 1. | 2. |
|                    |    |    |
| Name(s)<br>(Typed) | 1. | 2. |
|                    |    |    |

**CORPORATE SURETY(IES)**

|          |                               |               |                 |                |
|----------|-------------------------------|---------------|-----------------|----------------|
| SURETY A | Name & Address                | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                  | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br>(Typed) | 1.            | 2.              |                |

**CORPORATE SURETY(IES) (Continued)**

| SURETY B | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|----------|--------------------------------------|---------------|-----------------|----------------|
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY C | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY D | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY E | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY F | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY G | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |

**INSTRUCTIONS**

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**PAYMENT BOND**  
 (See Instructions on reverse)

24-203

DATE BOND EXECUTED (Must be same or later than date of contract)

PRINCIPAL (Legal name and business address)

TYPE OF ORGANIZATION ("X" one)

- INDIVIDUAL       PARTNERSHIP  
 JOINT VENTURE       CORPORATION

STATE OF INCORPORATION

SURETY(IES) (Name and business address)

**PENAL SUM OF BOND**

|            |             |            |       |
|------------|-------------|------------|-------|
| MILLION(S) | THOUSAND(S) | HUNDRED(S) | CENTS |
|------------|-------------|------------|-------|

CONTRACT DATE

CONTRACT NO.

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government) and Townsend and Bottum, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal entered into the contract identified above;

NOW, THEREFORE, if the Principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety(ies) being hereby waived, then the above obligation shall be void and of no effect.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this payment bond and have affixed their seals on the date set forth above.

**PRINCIPAL**

|                               |    |        |                |
|-------------------------------|----|--------|----------------|
| Signature(s)                  | 1. | 2.     | Corporate Seal |
|                               |    | (Seal) |                |
| Name(s) & Title(s)<br>(Typed) | 1. | 2.     |                |
|                               |    |        |                |

**INDIVIDUAL SURETY(IES)**

|                    |    |        |
|--------------------|----|--------|
| Signature(s)       | 1. | 2.     |
|                    |    | (Seal) |
| Name(s)<br>(Typed) | 1. | 2.     |
|                    |    |        |

**CORPORATE SURETY(IES)**

|          |                               |               |                 |                |
|----------|-------------------------------|---------------|-----------------|----------------|
| SURETY A | Name & Address                | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                  | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br>(Typed) | 1.            | 2.              |                |

**CORPORATE SURETY(IES) (Continued)**

| SURETY B | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|----------|--------------------------------------|---------------|-----------------|----------------|
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY C | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY D | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY E | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY F | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |
| SURETY G | Name & Address                       | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                         | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br><i>(Typed)</i> | 1.            | 2.              |                |

**INSTRUCTIONS**

1. This form, for the protection of persons supplying labor and material, shall be used whenever a payment bond is required under the act of August 24, 1935, 49 Stat. 793, as amended (40 U.S.C. 270a-270e). There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of the form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the

spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)", and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal"; and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

5. The name of each person signing this payment bond should be typed in the space provided.

**PAYMENT BOND**  
 (See Instructions on reverse)

24-203 DATE BOND EXECUTED (Must be same or later than date of contract)

PRINCIPAL (Legal name and business address)

TYPE OF ORGANIZATION ("X" one)

- INDIVIDUAL       PARTNERSHIP  
 JOINT               CORPORATION  
 VENTURE

STATE OF INCORPORATION

SURETY(IES) (Name and business address)

**PENAL SUM OF BOND**

MILLION(S)      THOUSAND(S)      HUNDRED(S)      CENTS

CONTRACT DATE      CONTRACT NO.

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government) and Townsend and Bottum, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal entered into the contract identified above;

NOW, THEREFORE, if the Principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety(ies) being hereby waived, then the above obligation shall be void and of no effect.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this payment bond and have affixed their seals on the date set forth above.

**PRINCIPAL**

|                               |    |        |                |
|-------------------------------|----|--------|----------------|
| Signature(s)                  | 1. | 2.     | Corporate Seal |
|                               |    | (Seal) |                |
| Name(s) & Title(s)<br>(Typed) | 1. | 2.     |                |
|                               |    |        |                |

**INDIVIDUAL SURETY(IES)**

|                    |    |        |
|--------------------|----|--------|
| Signature(s)       | 1. | 2.     |
|                    |    | (Seal) |
| Name(s)<br>(Typed) | 1. | 2.     |
|                    |    |        |

**CORPORATE SURETY(IES)**

|          |                               |               |                 |                |
|----------|-------------------------------|---------------|-----------------|----------------|
| SURETY A | Name & Address                | STATE OF INC. | LIABILITY LIMIT | Corporate Seal |
|          | Signature(s)                  | 1.            | 2.              |                |
|          | Name(s) & Title(s)<br>(Typed) | 1.            | 2.              |                |



**CORPORATE SURETY(IES) (Continued)**

|                 |                                      |    |               |                 |                       |
|-----------------|--------------------------------------|----|---------------|-----------------|-----------------------|
| <b>SURETY B</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY C</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY D</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY E</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY F</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY G</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |

**INSTRUCTIONS**

1. This form, for the protection of persons supplying labor and material, shall be used whenever a payment bond is required under the act of August 24, 1935, 49 Stat. 793, as amended (40 U.S.C. 270a-270e). There shall be no deviation from this form without approval by the Administrator of General Services.

2. The full legal name and business address of the Principal shall be inserted in the space designated "Principal" on the face of the form. The bond shall be signed by an authorized person. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of his authority must be furnished.

3. (a) Corporations executing the bond as sureties must be among those appearing on the Treasury Department's list of approved sureties and must be acting within the limitations set forth therein. Where more than a single corporate surety is involved, their names and addresses (city and State) shall be inserted in the

spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)", and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal"; and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

5. The name of each person signing this payment bond should be typed in the space provided.

**PAYMENT BOND**  
 (See Instructions on reverse)

24-203 DATE BOND EXECUTED (Must be same or later than date of contract)

| PRINCIPAL (Legal name and business address) | TYPE OF ORGANIZATION ("X" one)<br><input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> PARTNERSHIP<br><input type="checkbox"/> JOINT VENTURE <input type="checkbox"/> CORPORATION<br>STATE OF INCORPORATION   |                   |       |  |  |            |             |            |       |               |  |              |  |
|---|---|-------------------|-------|--|--|------------|-------------|------------|-------|---------------|--|--------------|--|
| SURETY(IES) (Name and business address)     | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">PENAL SUM OF BOND</th> </tr> <tr> <td style="width:25%;">MILLION(S)</td> <td style="width:25%;">THOUSAND(S)</td> <td style="width:25%;">HUNDRED(S)</td> <td style="width:25%;">CENTS</td> </tr> <tr> <td colspan="2">CONTRACT DATE</td> <td colspan="2">CONTRACT NO.</td> </tr> </table> | PENAL SUM OF BOND |       |  |  | MILLION(S) | THOUSAND(S) | HUNDRED(S) | CENTS | CONTRACT DATE |  | CONTRACT NO. |  |
| PENAL SUM OF BOND                           |   |                   |       |  |  |            |             |            |       |               |  |              |  |
| MILLION(S)                                  | THOUSAND(S)   | HUNDRED(S)        | CENTS |  |  |            |             |            |       |               |  |              |  |
| CONTRACT DATE                               |   | CONTRACT NO.      |       |  |  |            |             |            |       |               |  |              |  |

KNOW ALL MEN BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government) and Townsend and Bottum, Inc., in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally: *Provided*, That, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

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IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this payment bond and have affixed their seals on the date set forth above.

| PRINCIPAL                            |                                      |                           |                 |                |  |
|--------------------------------------|--------------------------------------|---------------------------|-----------------|----------------|--|
| Signature(s)                         | 1. _____<br><i>(Seal)</i>            | 2. _____<br><i>(Seal)</i> | Corporate Seal  |                |  |
| Name(s) & Title(s)<br><i>(Typed)</i> | 1. _____                             | 2. _____                  |                 |                |  |
| INDIVIDUAL SURETY(IES)               |                                      |                           |                 |                |  |
| Signature(s)                         | 1. _____<br><i>(Seal)</i>            | 2. _____<br><i>(Seal)</i> |                 |                |  |
| Name(s)<br><i>(Typed)</i>            | 1. _____                             | 2. _____                  |                 |                |  |
| CORPORATE SURETY(IES)                |                                      |                           |                 |                |  |
| SURETY A                             | Name & Address                       | STATE OF INC.             | LIABILITY LIMIT | Corporate Seal |  |
|                                      | Signature(s)                         | 1. _____                  | 2. _____        |                |  |
|                                      | Name(s) & Title(s)<br><i>(Typed)</i> | 1. _____                  | 2. _____        |                |  |

**CORPORATE SURETY(IES) (Continued)**

|                 |                                      |    |               |                 |                       |
|-----------------|--------------------------------------|----|---------------|-----------------|-----------------------|
| <b>SURETY B</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY C</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY D</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY E</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY F</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |
| <b>SURETY G</b> | Name & Address                       |    | STATE OF INC. | LIABILITY LIMIT | <i>Corporate Seal</i> |
|                 | Signature(s)                         | 1. | 2.            |                 |                       |
|                 | Name(s) & Title(s)<br><i>(Typed)</i> | 1. | 2.            |                 |                       |

**INSTRUCTIONS**

1. This form, for the protection of persons supplying labor and material, shall be used whenever a payment bond is required under the act of August 24, 1935, 49 Stat. 793, as amended (40 U.S.C. 270a-270e). There shall be no deviation from this form without approval by the Administrator of General Services.

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spaces (Surety A, Surety B, etc.) headed "CORPORATE SURETY(IES)", and in the space designated "SURETY(IES)" on the face of this form only the letter identification of the Sureties shall be inserted.

(b) Where individual sureties execute the bond, they shall be two or more responsible persons. A completed Affidavit of Individual Surety (Standard Form 28), for each individual surety, shall accompany the bond. Such sureties may be required to furnish additional substantiating information concerning their assets and financial capability as the Government may require.

4. Corporations executing the bond shall affix their corporate seals. Individuals shall execute the bond opposite the word "Seal"; and, if executed in Maine or New Hampshire, shall also affix an adhesive seal.

5. The name of each person signing this payment bond should be typed in the space provided.

SECTION 3- IFB

SECTION GP - GENERAL PROVISIONS (STANDARD FORM 23A  
APRIL 1975)

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# GENERAL PROVISIONS

## (Construction Contract)

### 1. DEFINITIONS

(a) The term "head of the agency" or "Secretary" as used herein means the Secretary, the Under Secretary, any Assistant Secretary, or any other head or assistant head of the executive or military department or other Federal agency; and the term "his duly authorized representative" means any person or persons or board (other than the Contracting Officer) authorized to act for the head of the agency or the Secretary.

(b) The term "Contracting Officer" as used herein means the person executing this contract on behalf of the Government and includes a duly appointed successor or authorized representative.

### 2. SPECIFICATIONS AND DRAWINGS

The Contractor shall keep on the work 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 either 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 his own risk and expense. The Contracting Officer shall furnish from time to time such detail drawings and other information as he may consider necessary, unless otherwise provided.

### 3. CHANGES

(a) The Contracting Officer may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make any change in the work within the general scope of the contract, including but not limited to changes:

(1) In the specifications (including drawings and details);

(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 order or an oral order (which terms as used in this paragraph (b) shall include direction, instruction, interpretation, or determination) from the Contracting Officer, which causes any such change, shall be treated as a change order under this clause, provided that the Contractor gives the Contracting Officer written notice stating the date, circumstances, and source of the order and that the Contractor regards the order as a change order.

(c) Except as herein provided, 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 hereunder.

(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 order, an equitable adjustment shall be made and the contract modified in writing accordingly: *Provided, however,* That except for claims based on defective specifications, no claim for any change under (b) above shall be allowed for any costs incurred more than 20 days before the Contractor gives written notice as therein required: *And provided further,* That 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 such defective specifications.

(e) If the Contractor intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order under (a) above or the furnishing of a written notice under (b) above, submit to the Contracting Officer a written statement setting forth the general nature and monetary extent of such claim,

unless this period is extended by the Government. The statement of claim hereunder may be included in the notice under (b) above.

(f) No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

### 4. DIFFERING SITE CONDITIONS

(a) The Contractor shall promptly, and before such conditions are disturbed, notify the Contracting Officer in writing of: (1) Subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in this contract. The Contracting Officer shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

(b) No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required in (a) above; provided, however, the time prescribed therefor may be extended by the Government.

(c) No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

### 5. TERMINATION FOR DEFAULT—DAMAGES FOR DELAY—TIME EXTENSIONS

(a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with such diligence as will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within such time, the Government may, by written notice to the Contractor, terminate his right to proceed with the work or such part of the work as to which there has been delay. In such event the Government may take over the work and prosecute the same to completion, by contract or otherwise, and may take possession of and utilize in completing the work such materials, appliances, and plant as may be on the site of the work and necessary therefor. Whether or not the Contractor's right to proceed with the work is terminated, he and his sureties shall be liable for any damage to the Government resulting from his refusal or failure to complete the work within the specified time.

(b) If fixed and agreed liquidated damages are provided in the contract and if the Government so terminates the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

(c) If fixed and agreed liquidated damages are provided in the contract and if the Government does not so terminate the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until the work is completed or accepted.

(d) The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if:

(1) The delay in the completion of the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the Government in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any such delay (unless the Contracting Officer grants a further period of time before the date of final payment

under the contract), notifies the Contracting Officer in writing of the causes of delay.

The Contracting Officer shall ascertain the facts and the extent of the delay and extend the time for completing the work when, in his judgment, the findings of fact justify such an extension, and his findings of fact shall be final and conclusive on the parties, subject only to appeal as provided in Clause 6 of these General Provisions.

(e) If, after notice of termination of the Contractor's right to proceed under the provisions of this clause, it is determined for any reason that the Contractor was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, the rights and obligations of the parties shall, if the contract contains a clause providing for termination for convenience of the Government, be the same as if the notice of termination had been issued pursuant to such clause. If, in the foregoing circumstances, this contract does not contain a clause providing for termination for convenience of the Government, the contract shall be equitably adjusted to compensate for such termination and the contract modified accordingly; failure to agree to any such adjustment shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes."

(f) The rights and remedies of the Government provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

(g) As used in Paragraph (d) (1) of this clause, the term "subcontractors or suppliers" means subcontractors or suppliers at any tier.

#### 6. DISPUTES

(a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the head of the agency involved. The decision of the head of the agency or his duly authorized representative for the determination of such appeals shall be final and conclusive. This provision shall not be pleaded in any suit involving a question of fact arising under this contract as limiting judicial review of any such decision to cases where fraud by such official or his representative or board is alleged: *Provided, however*, That any such decision shall be final and conclusive unless the same is fraudulent or capricious or arbitrary or so grossly erroneous as necessarily to imply bad faith or is not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of his appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

(b) This Disputes clause does not preclude consideration of questions of law in connection with decisions provided for in paragraph (a) above. Nothing in this contract, however, shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

#### 7. PAYMENTS TO CONTRACTOR

(a) The Government will pay the contract price as herein-after provided.

(b) The Government will make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates approved by the Contracting Officer. If requested by the Contracting Officer, the Contractor shall furnish a breakdown of the total contract price showing the amount included therein for each principal category of the work, in such detail as requested, to provide a basis for determining progress payments. In the preparation of estimates the Contracting Officer, at his discretion, 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 may also be taken into consideration (1) if such consideration is specifically authorized by the contract and (2) if the Contractor furnishes satisfactory evidence that he has acquired title to such material and that it will be utilized on the work covered by this contract.

(c) In making such progress payments, there shall be retained 10 percent of the estimated amount until final com-

pletion and acceptance of the contract work. However, if the Contracting Officer, at any time after 50 percent of the work has been completed, finds that satisfactory progress is being made, he may authorize payment in full of each progress payment for work performed beyond the 50 percent stage of completion. Also, whenever the work is substantially complete, the Contracting Officer, if he considers the amount retained to be in excess of the amount adequate for the protection of the Government, at his discretion, may release to the Contractor all or a portion of such excess amount. Furthermore, on completion and acceptance of each separate building, public work, or other division of the contract, on which the price is stated separately in the contract, payment may be made therefor without retention of a percentage.

(d) All material and work covered by progress payments made shall thereupon become the sole property of the Government, but this provision shall not be construed as 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 as waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(e) Upon completion and acceptance of all work, the amount due the Contractor under this contract shall be paid upon the presentation of a properly executed voucher and after the Contractor shall have furnished the Government with a release of all claims against the Government arising by virtue of this contract, other than claims in stated amounts as may be specifically excepted by the Contractor from the operation of the release. If the Contractor's claim to amounts payable under the contract has been assigned under the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), a release may also be required of the assignee.

#### 8. ASSIGNMENT OF CLAIMS

(a) Pursuant to the provisions of the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), if this contract provides for payments aggregating \$1,000 or more, claims for moneys due or to become due the Contractor from the Government under this contract may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this contract and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. Unless otherwise provided in this contract, payments to an assignee of any moneys due or to become due under this contract shall not, to the extent provided in said Act, as amended, be subject to reduction or setoff. (The preceding sentence applies only if this contract is made in time of war or national emergency as defined in said Act; and is with the Department of Defense, the General Services Administration, the Energy Research and Development Administration, the National Aeronautics and Space Administration, the Federal Aviation Administration, or any other department or agency of the United States designated by the President pursuant to Clause 4 of the proviso of section 1 of the Assignment of Claims Act of 1940, as amended by the Act of May 15, 1951, 65 Stat. 41.)

(b) In no event shall copies of this contract or of any plans, specifications, or other similar documents relating to work under this contract, if marked "Top Secret," "Secret," or "Confidential," be furnished to any assignee of any claim arising under this contract or to any other person not entitled to receive the same. However, a copy of any part or all of this contract so marked may be furnished, or any information contained therein may be disclosed, to such assignee upon the prior written authorization of the Contracting Officer.

#### 9. MATERIAL AND WORKMANSHIP

(a) Unless otherwise specifically provided in this contract, all equipment, material, and articles incorporated in the work covered by this contract are to be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in this contract, reference to any equipment, material, article, or patented process, by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition, and the Contractor may, at his option, use any equipment, material, article, or process, which, in the judgment of the Contracting Officer, is equal to that named. The Contractor shall furnish to the Contracting Officer for his approval the name of the manufacturer, the model number,

and other identifying data and information respecting the performance, capacity, nature, and rating of the machinery and mechanical and other equipment which the Contractor contemplates incorporating in the work. When required by this contract or when called for by the Contracting Officer, the Contractor shall furnish the Contracting Officer for approval full information concerning the material or articles which he contemplates incorporating in the work. When so directed, samples shall be submitted for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles installed or used without required approval shall be at the risk of subsequent rejection.

(b) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may, in writing, require the Contractor to remove from the work any employee the Contracting Officer deems incompetent, careless or otherwise objectionable.

#### 10. INSPECTION AND ACCEPTANCE

(a) All work (which term includes but is not restricted to materials, workmanship, and manufacture and fabrication of components) shall be subject to inspection and test by the Government at all reasonable times and at all places prior to acceptance. Any such inspection and test is for the sole benefit of the Government and shall not relieve the Contractor of the responsibility of providing quality control measures to assure that the work strictly complies with the contract requirements. No inspection or test by the Government shall be construed as constituting or implying acceptance. Inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance, nor in any way affect the continuing rights of the Government after acceptance of the completed work under the terms of paragraph (f) of this clause, except as hereinabove provided.

(b) The Contractor shall, without charge, replace any material or correct any workmanship found by the Government not to conform to the contract requirements, unless in the public interest the Government consents to accept such material or workmanship with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(c) If the Contractor does not promptly replace rejected material or correct rejected workmanship, the Government (1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Contractor, or (2) may terminate the Contractor's right to proceed in accordance with the clause of this contract entitled "Termination for Default—Damages for Delay—Time Extensions."

(d) The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the Contracting Officer. All inspection and test by the Government shall be performed in such manner as not unnecessarily to delay the work. Special, full size, and performance tests shall be performed as described in this contract. The Government reserves the right to charge to the Contractor any additional cost of inspection or test when material or workmanship is not ready at the time specified by the Contractor for inspection or test or when reinspection or retest is necessitated by prior rejection.

(e) Should it be considered necessary or advisable by the Government at any time before acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall, on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect, due to the fault of the Contractor or his subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, an equitable adjustment shall be made in the contract price to compensate the Contractor for the additional services involved in such examination and reconstruction and, if completion of the work has been delayed thereby, he shall, in addition, be granted a suitable extension of time.

(f) Unless otherwise provided in this contract, acceptance by the Government shall be made as promptly as practicable after completion and inspection of all work required by this contract, or that portion of the work that the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except as regards latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Government's rights under any warranty or guarantee.

#### 11. SUPERINTENDENCE BY CONTRACTOR

The Contractor, at all times during performance and until the work is completed and accepted, shall give his personal superintendence to the work or have on the work a competent superintendent, satisfactory to the Contracting Officer and with authority to act for the Contractor.

#### 12. PERMITS AND RESPONSIBILITIES

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any applicable Federal, State, and municipal laws, codes, and regulations, in connection with the prosecution of the work. He shall be similarly responsible for all damages to persons or property that occur as a result of his fault or negligence. He shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. He shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire construction work, except for any completed unit of construction thereof which theretofore may have been accepted.

#### 13. CONDITIONS AFFECTING THE WORK

The Contractor shall be responsible for having taken steps reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Any failure by the Contractor to do so will not relieve him from responsibility for successfully performing the work without additional expense to the Government. The Government assumes no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of this contract, unless such understanding or representations by the Government are expressly stated in the contract.

#### 14. OTHER CONTRACTS

The Government may undertake or award other contracts for additional work, and the Contractor shall fully cooperate with such other contractors and Government employees and carefully fit his own work to such additional work as may be directed by the Contracting Officer. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor or by Government employees.

#### 15. SHOP DRAWINGS

(a) The term "shop drawings" 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.

(b) 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 his 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 his approval or disapproval of the shop drawings and if not approved as submitted shall indicate his reasons therefor. Any work done prior to 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 (c) below.

(c) 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(s), he shall issue an appropriate contract modification, except that, if the variation is minor and does not involve a change in price or in time of performance, a modification need not be issued.

#### 16. USE AND POSSESSION PRIOR TO COMPLETION

The Government shall have the right to take possession of or use any completed or partially completed part of the work. Prior to such possession or use, the Contracting Officer shall furnish the Contractor an itemized list of work remaining to be performed or corrected on such portions of the project as are to be possessed or used by the Government, provided that failure to list any item of work shall not relieve the Contractor of responsibility for compliance with the terms of the



contract. Such possession or use shall not be deemed an acceptance of any work under the contract. While the Government has such possession or use, the Contractor, notwithstanding the provisions of the clause of this contract entitled "Permits and Responsibilities," shall be relieved of the responsibility for the loss or damage to the work resulting from the Government's possession or use. If such prior possession or use by the Government delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment in the contract price or the time of completion will be made and the contract shall be modified in writing accordingly.

#### 17. SUSPENSION OF WORK

(a) The Contracting Officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as he may determine to be 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 by an act of the Contracting Officer in the administration of this contract, or by his failure to act within the time specified in this contract (or if no time is specified, within a reasonable time), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by such 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 (1) that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor or (2) for which an equitable adjustment is provided for or excluded under any other provision of this contract.

(c) No claim under this clause shall 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 such suspension, delay, or interruption, but not later than the date of final payment under the contract.

#### 18. TERMINATION FOR CONVENIENCE OF THE GOVERNMENT

If not physically incorporated elsewhere, the clause in Section 1-3.703 of the Federal Procurement Regulations, or paragraph 7-602.29(a) of the Armed Services Procurement Regulation, as applicable, in effect on the date of this contract is hereby incorporated by reference as fully as if set forth at length herein.

#### 19. PAYMENT OF INTEREST ON CONTRACTORS' CLAIMS

(a) If an appeal is filed by the Contractor from a final decision of the Contracting Officer under the Disputes clause of this contract, denying a claim arising under the contract, simple interest on the amount of the claim finally determined owed by the Government shall be payable to the Contractor. Such interest shall be at the rate determined by the Secretary of the Treasury pursuant to Public Law 92-41, 85 Stat. 97, from the date the Contractor furnishes to the Contracting Officer his written appeal under the Disputes clause of this contract, to the date of (1) a final judgment by a court of competent jurisdiction, or (2) mailing to the Contractor of a supplemental agreement for execution either confirming completed negotiations between the parties or carrying out a decision of a board of contract appeals.

(b) Notwithstanding (a) above, (1) interest shall be applied only from the date payment was due, if such date is later than the filing of appeal; and (2) interest shall not be paid for any period of time that the Contracting Officer determines the Contractor has unduly delayed in pursuing his remedies before a board of contract appeals or a court of competent jurisdiction.

#### 20. PRICING OF ADJUSTMENTS

When costs are a factor in any determination of a contract price adjustment pursuant to the Changes clause or any other provision of this contract, such costs shall be in accordance with the contract cost principles and procedures in Part 1-15 of the Federal Procurement Regulations, (41 CFR 1-15) or Section XV of the Armed Services Procurement Regulation, as applicable, which are in effect on the date of this contract.

#### 21. PATENT INDEMNITY

Except as otherwise provided, the Contractor agrees to indemnify the Government and its officers, agents, and em-

ployees against liability, including costs and expenses, for infringement upon any Letters Patent of the United States (except Letters Patent issued upon an application which is now or may hereafter be, for reasons of national security, ordered by the Government to be kept secret or otherwise withheld from issue) arising out of the performance of this contract or out of the use or disposal by or for the account of the Government of supplies furnished or construction work performed hereunder.

#### 22. ADDITIONAL BOND SECURITY

If any surety upon any bond furnished in connection with this contract becomes unacceptable to the Government, or if any such surety fails to furnish reports as to his financial condition from time to time as requested by the Government, or if the contract price is increased to such an extent that the penal sum of any bond becomes inadequate in the opinion of the Contracting Officer, the Contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the Government and of persons supplying labor or materials in the prosecution of the work contemplated by this contract.

#### 23. EXAMINATION OF RECORDS BY COMPTROLLER GENERAL

(a) This clause is applicable if the amount of this contract exceeds \$10,000 and was entered into by means of negotiation, including small business restricted advertising, but is not applicable if this contract was entered into by means of formal advertising.

(b) The contractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of 3 years after final payment under this contract or such lesser time specified in either Appendix M of the Armed Services Procurement Regulation or the Federal Procurement Regulations Part 1-20, as appropriate, have access to and the right to examine any directly pertinent books, documents, papers, and records of the contractor involving transactions related to this contract.

(c) The Contractor further agrees to include in all his subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of 3 years after final payment under the subcontract or such lesser time specified in either Appendix M of the Armed Services Procurement Regulation or the Federal Procurement Regulations Part 1-20, as appropriate, have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, involving transactions related to the subcontract. The term "subcontract" as used in this clause excludes (1) purchase orders not exceeding \$10,000 and (2) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.

(d) The periods of access and examination described in (b) and (c), above, for records which relate to (1) appeals under the "Disputes" clause of this contract, (2) litigation or the settlement of claims arising out of the performance of this contract, or (3) costs and expenses of this contract as to which exception has been taken by the Comptroller General or any of his duly authorized representatives, shall continue until such appeals, litigation, claims, or exceptions have been disposed of.

#### 24. BUY AMERICAN

(a) *Agreement.* In accordance with the Buy American Act (41 U.S.C. 10a-10d), and Executive Order 10582, December 17, 1954 (3 CFR, 1954-58 Comp., p. 230), as amended by Executive Order 11051, September 27, 1962 (3 CFR, 1959-63 Comp., p. 635), the Contractor agrees that only domestic construction material will be used (by the Contractor, subcontractors, materialmen, and suppliers) in the performance of this contract, except for nondomestic material listed in the contract.

(b) *Domestic construction material.* "Construction material" means any article, material, or supply brought to the construction site for incorporation in the building or work. An unmanufactured construction material is a "domestic construction material" if it has been mined or produced in the United States. A manufactured construction material is a "domestic construction material" if it has been manufactured in the United States and if the cost of its components which have been mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. "Component" means any article, material, or supply directly incorporated in a construction material.

(c) *Domestic component.* A component shall be considered to have been "mined, produced, or manufactured in the

United States" (regardless of its source in fact) if the article, material, or supply in which it is incorporated was manufactured in the United States and the component is of a class or kind determined by the Government to be not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality.

#### 25. EQUAL OPPORTUNITY

(The following clause is applicable unless this contract is exempt under the rules, regulations, and relevant orders of the Secretary of Labor (41 CFR, ch. 60).)

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will 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. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this Equal Opportunity clause.

(b) The Contractor will, 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.

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

(d) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375 of October 13, 1967, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(e) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375 of October 13, 1967, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the Equal Opportunity clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended, in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375 of October 13, 1967, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375 of October 13, 1967, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375 of October 13, 1967, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance. *Provided, however,* that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

#### 26. COVENANT AGAINST CONTINGENT FEES

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. 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 such commission, percentage, brokerage, or contingent fee.

#### 27. OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress or resident Commissioner shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

#### 28. CONVICT LABOR

In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment at hard labor except as provided by Public Law 89-176, September 10, 1965 (18 U.S.C. 4082(c)(2)) and Executive Order 11755, December 29, 1973.

#### 29. UTILIZATION OF SMALL BUSINESS CONCERNS

(a) It is the policy of the Government as declared by the Congress that a fair proportion of the purchases and contracts for supplies and services for the Government be placed with small business concerns.

(b) The Contractor agrees to accomplish the maximum amount of subcontracting to small business concerns that the Contractor finds to be consistent with the efficient performance of this contract.

#### 30. UTILIZATION OF MINORITY BUSINESS ENTERPRISES

(a) It is the policy of the Government that minority business enterprises shall have the maximum practicable opportunity to participate in the performance of Government contracts.

(b) The Contractor agrees to use his best efforts to carry out this policy in the award of his subcontracts to the fullest extent consistent with the efficient performance of this contract. As used in this contract, the term "minority business enterprise" means a business, at least 50 percent of which is owned by minority group members or, in case of publicly-owned businesses, at least 51 percent of the stock of which is owned by minority group members. For the purposes of this definition, minority group members are Negroes, Spanish-speaking American persons, American-Orientals, American-Indians, American-Eskimos, and American-Aleuts. Contractors may rely on written representations by subcontractors regarding their status as minority business enterprises in lieu of an independent investigation.

#### 31. FEDERAL, STATE, AND LOCAL TAXES

(a) Except as may be otherwise provided in this contract, the contract price includes all applicable Federal, State and local taxes and duties.

(b) Nevertheless, with respect to any Federal excise tax or duty on the transactions or property covered by this contract, if a statute, court decision, written ruling, or regulation takes effect after the contract date, and—

(1) Results in the Contractor being required to pay or bear the burden of any such Federal excise tax or duty or increase in the rate thereof which would not otherwise have been payable on such transactions or property, the contract price shall be increased by the amount of such tax or duty or rate increase: *Provided,* That the Contractor if requested by the Contracting Officer, 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; or

(2) Results in the Contractor not being required to pay or bear the burden of, or in his obtaining a refund or drawback of, any such Federal excise tax or duty which would otherwise have been payable on such transactions or property or which was the basis of an increase in the contract price, the contract price shall be decreased by the amount of the relief, refund, or drawback, or that amount shall be paid to the Government, as directed by the Contracting Officer. The contract price shall be similarly decreased if the Contractor, through his fault or negligence or his failure to follow instructions of the Contract-

ing Officer, is required to pay or bear the burden of, or does not obtain a refund or drawback of, any such Federal excise tax or duty.

(c) No adjustment pursuant to paragraph b above will be made under this contract unless the aggregate amount thereof is or may reasonably be expected to be over \$100.00.

(d) As used in paragraph b above, the term "contract date" means the date set for the bid opening, or if this is a negotiated contract, the date of this contract. As to additional supplies or services procured by modification to this contract, the term "contract date" means the date of such modification.

(e) Unless there does not exist any reasonable basis to sustain an exemption, the Government, upon request of the

Contractor, without further liability, agrees, except as otherwise provided in this contract, to furnish evidence appropriate to establish exemption from any tax which the Contractor warrants in writing was excluded from the contract price. In addition, the Contracting Officer may furnish evidence to establish exemption from any tax that may, pursuant to this Clause, give rise to either an increase or decrease in the contract price. Except as otherwise provided in this contract, evidence appropriate to establish exemption from duties will be furnished only at the discretion of the Contracting Officer.

(f) The Contractor shall promptly notify the Contracting Officer of matters which will result in either an increase or decrease in the contract price, and shall take action with respect thereto as directed by the Contracting Officer.

SUPPLEMENT A TO STANDARD FORM 23A (April 1975 Edition)

(The following alterations or additions contain clauses relevant to both fixed price and cost type construction contracts.)

The following alterations in or additions to the provisions of Standard Form 23A, General Provisions of this contract were made prior to execution of this contract by the parties:

1. Clause 1 entitled "Definitions" is revised to add the following as paragraph (c), (d) and (e) thereto:

"(c) The term "DOE" means the United States Department of Energy or any duly authorized representative thereof, including the Contracting Officer except for the purpose of deciding an appeal under the Article entitled "Disputes."

(d) Unless otherwise indicated, wherever in the specifications or upon the drawings the words "directed," "required," "approved," "accepted," or words of like import are used, it means the direction, requirement, approval, acceptability ~~of or to the Contracting Officer.~~

(e) The term "DOEPR" means ERDAPR."

2. Clause 6 entitled "Disputes" is deleted in its entirety and replaced with the following:

"CLAUSE 6 DISPUTES

(a) This contract is subject to the Contract Disputes Act of 1978 (41 U.S.C. 601, et seq.). If a dispute arises relating to the contract, the Contractor may submit a claim to the Contracting Officer who shall issue a written decision on the dispute in the manner specified in DAR 1-314 (FPR 1-1.318).

(b) "Claim" means:

- (1) a written request submitted to the Contracting Officer;
- (2) for payment of money, adjustment of contract terms, or other relief;
- (3) which is in dispute or remains unresolved after a reasonable time for its review and disposition by the Government; and
- (4) for which a Contracting Officer's decision is demanded.

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SUPPLEMENT A TO STANDARD FORM 23A (April 1975 Edition)

- (c) In the case of disputed requests or amendments to such requests for payment exceeding \$50,000, or with any amendment causing the total request in dispute to exceed \$50,000, the Contractor shall certify, at the time of submission as a claim, 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; and that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable.

(Contractor's Name) \_\_\_\_\_  
(Title) \_\_\_\_\_

- (d) The Government shall pay the Contractor interest:

~~(1) on the amount found due on claims submitted under this clause;~~

(2) at the rates fixed by the Secretary of the Treasury, under the Renegotiation Act, Public Law 92-41;

(3) from the date the Contracting Officer receives the claim, until the Government makes payment.

- (e) The decision of the Contracting Officer shall be final and conclusive and not subject to review by any forum, tribunal, or Government agency unless an appeal or action is timely commenced within the times specified by the Contract Disputes Act of 1978.

- (f) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal or action related to the contract, and comply with any decision of the Contracting Officer."

(c) In making such progress payments, there shall be retained 10 percent of the estimated amount until final completion and acceptance of the contract work. However, if the Contracting Officer finds that satisfactory progress was achieved during any period for which a progress payment is to be made, he may authorize such payment to be made in full without retention of a percentage. Also, whenever the work is substantially complete, the Contracting Officer shall retain an amount he considers adequate for protection of the Government and, at his discretion, may release to the Contractor all or a portion of any excess amount. Furthermore, on completion and acceptance of each separate building, public work, or other division of the contract, on which the price is stated separately in the contract, payment may be made therefor without retention of a percentage.

3. Clause 7 entitled "Payments to Contractor" is deleted in its entirety and replaced with the following:

"CLAUSE 7 PAYMENTS TO CONTRACTOR

- (a) The Government will pay the contract price as hereinafter provided.
- (b) The Government will make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates approved by the Contracting Officer. If requested by the Contracting Officer, the Contractor shall furnish a breakdown of the total contract price showing the amount included therein for each principal category of the work, in such detail as requested, to provide a basis for determining progress payments. In the preparation of estimates the Contracting Officer, at his discretion, 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 may also be taken into consideration (1) if such consideration is specifically authorized by the contract and (2) if the Contractor furnishes satisfactory evidence that he has acquired title to such material and that it will be utilized on the work covered by this contract.

(d) All material and work covered by progress payments made shall thereupon become the sole property of the Government, but this provision shall not be construed as 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 as waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(e) Upon completion and acceptance of all work, the amount due the Contractor under this contract shall be paid upon the presentation of a properly executed voucher and after the Contractor shall have furnished the Government with a release of all claims against the Government, arising by virtue of this contract, other than claims in stated amounts as may be specifically excepted by the Contractor from the operation of the release. If the Contractor's claim to amounts payable under the contract has been assigned under the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), a release may also be required of the assignee."

4. Clause 20 entitled "Pricing of Adjustments" is deleted in its entirety and replaced with the following:

"CLAUSE 20 PRICING OF ADJUSTMENTS

When costs are a factor in any determination of a contract price adjustment pursuant to the "Changes" clause or any other provision of this contract, such costs shall be in

accordance with the contract cost principles and procedures in Subpart 1-15.2 of the Federal Procurement Regulations (41 CFR 1-15.2) as supplemented or modified by DOEPR Part 9-15.2 (41 CFR 9-15.2) in effect on the date of the contract."

5. Clause 21 entitled "Patent Indemnity" is deleted in its entirety and replaced with the following:

"CLAUSE 21 PATENT INDEMNITY

If the amount of this contract is in excess of \$10,000, the Contractor shall indemnify the Government and its officers, agents, and employees against liability, including costs, for infringement of any United States letter patent (except letters patent issued upon an application which is now or may hereafter be kept secret or otherwise withheld from issue by order of the Government) arising out of the manufacture or delivery of supplies or out of construction, alteration, modification, or repair of real property (hereinafter referred to as "construction work") under this contract, or out of the use of disposal by or for the account of the Government of such supplies or construction work. The foregoing indemnity shall not apply unless the Contractor shall have been informed as soon as practicable by the Government of the suit or action alleging such infringement, and shall have been given such opportunity as is afforded by applicable laws, rules, or regulations to participate in the defense thereof; and further, such indemnity shall not apply to:

- (a) An infringement resulting from compliance with specific written instructions of the Contracting Officer directing a change in the supplies to be delivered or in the materials or equipment to be used, or directing a manner of performance of the contract not normally used by the Contractor;
  - (b) An infringement resulting from addition to, or change in, such supplies or components furnished or construction work performed which addition or change was made subsequent to delivery or performance by the Contractor; or
  - (c) A claimed infringement which is settled without the consent of the Contractor, unless required by final decree of a court of competent jurisdiction."
6. Clause 28, "Convict Labor" is deleted in its entirety and replaced with the following:

"CLAUSE 28 CONFLICT LABOR

In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment except as provided by Public Law 89-176, September 10, 1965 (18 U.S.C. 4082(c)(2)) and Executive Order 11755, December 29, 1973."

7. Clause 29 "Utilization of Small Business Concerns" and Clause 30 "Utilization of Minority Business Enterprises" are deleted in their entirety and replaced with the following:

"CLAUSE 29 UTILIZATION OF SMALL BUSINESS CONCERNS AND SMALL BUSINESS CONCERNS OWNED AND CONTROLLED BY SOCIALLY AND ECONOMICALLY DISADVANTAGED INDIVIDUALS

- (a) It is the policy of the United States and the Department of Energy that small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals shall have the maximum practicable opportunity to participate in the performance of contracts let by the Department.
- (b) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with the efficient performance of this contract. The Contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the Department of Energy as may be necessary to determine the extent of the Contractor's compliance with this clause.
- (c) As used in this contract, the term "small business concern" shall mean a small business as defined pursuant to section 3 of the Small Business Act (15 U.S.C. 632) and relevant regulations promulgated pursuant thereto including Section 1-1.701 of the Federal Procurement Regulations. The term "small business concern owned and controlled by socially and economically disadvantaged individuals" shall mean a small business concern:
  - (1) which is at least 51 per centum owned by one or more socially and economically disadvantaged individuals; or in the case of any publicly-owned business, at least 51 per centum of the stock of which

is owned by one or more socially and economically disadvantaged individuals; and

- (2) whose management and daily business operations are controlled by one or more of such individuals.

The Contractor shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native American and other specified minorities, or any other individual found to be disadvantaged by the Small Business Administration pursuant to section 8(a) of the Small Business Act.

- (d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as either a small business concern or a small business concern owned and controlled by socially and economically disadvantaged individuals."

The following clauses are hereby added:

"CLAUSE 32 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA - PRICING ADJUSTMENTS

- (a) This clause shall become operative only with respect to any modification of this contract which involves aggregate increases and/or decreases in costs plus applicable profits in excess of \$100,000 unless the modification is priced on the basis of adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation. The right to price reduction under this clause is limited to defects in data relating to such modification.
- (b) If any price, including profit or fee, negotiated in connection with any price adjustment under this contract was increased by any significant sums because:
- (1) The Contractor furnished cost or pricing data which was not accurate, complete and current as certified in the Contractor's Certificate of Current Cost or Pricing Data;
- (2) A subcontractor, pursuant to the clause of this contract entitled "Subcontractor Cost or Pricing Data" or Subcontractor Cost or Pricing Data - Price Adjustments" or any subcontract clause therein

required, furnished cost or pricing data which was not accurate, complete and current as certified in the subcontractor's Certificate of Current Cost or Pricing Data;

- (3) A subcontractor or prospective subcontractor furnished cost or pricing data which was required to be accurate, complete and current and to be submitted to support a subcontract cost estimate furnished by the Contractor but which was not accurate, complete and current as of the date certified in the Contractor's Certificate of Current Cost of Pricing Data; or
- (4) The Contractor or a subcontractor or prospective subcontractor furnished any data, not within (1), (2) or (3) above, which was not accurate, as submitted; the price shall be reduced accordingly and the contract shall be modified in writing as may be necessary to reflect such reduction. However, any reduction in the contract price due to defective subcontract data of a prospective subcontractor, when the subcontractor was not subsequently awarded to such subcontractor, will be limited to the amount (plus applicable overhead and profit markup) by which the actual subcontract, or actual cost to the Contractor if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor: Provided the actual subcontract price was not affected by defective cost or pricing data.
- (c) Failure to agree on a reduction shall be a dispute concerning a question of fact within the meaning of the "Disputes" clause of this contract.

(NOTE: Since the contract is subject to reduction under this clause by reason of defective cost or pricing data submitted in connection with certain subcontracts, it is expected that the Contractor may wish to include a clause in each such subcontract requiring the subcontractor to appropriately indemnify the Contractor. It is also expected that any subcontractor subject to such indemnification will generally require substantially similar indemnification for defective cost or pricing data required to be submitted by his lower tier subcontractors.)



CLAUSE 33 TERMINATION FOR CONVENIENCE OF THE  
GOVERNMENT

- (a) The performance of work under this contract may be terminated by the Government in accordance with this clause in whole, or from time to time in part, whenever the Contracting Officer shall determine that such termination is in the best interest of the Government. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract is terminated and the date upon which such termination becomes effective.
- (b) After receipt of a Notice of Termination, and except as otherwise directed by the Contracting Officer, the Contractor shall:
- (1) Stop work under the contract on the date and to the date and to the extent specified in the Notice of Termination;
  - (2) Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the work under the contract as is not terminated;
  - (3) Terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination;
  - (4) Assign to the Government, in the manner, at the times, and to the extent directed by the Contracting Officer, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the Government shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;
  - (5) Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Contracting Officer to the extent he may require, which approval or ratification shall be final for all the purposes of this clause;
  - (6) Transfer title to the Government and deliver in the manner, at the times, and to the extent, if any, directed by the Contracting Officer, (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the work terminated by the Notice of Termination and (ii) the completed or partially completed plans, drawings, information, and other property which, if the contract had been completed, would have been required to be furnished to the Government;
  - (7) Use his best efforts to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the Contracting Officer, any property of the type referred to in (6) above: Provided, however, That the Contractor (i) shall not be required to extend credit to any purchaser, and (ii) may acquire any such property under the conditions prescribed and at a price or prices approved by the Contracting Officer: And provided further, that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Government to the Contractor under this contract or shall otherwise be credited to the price or cost of the work covered by this contract or paid in such other manner as the Contracting Officer may direct;
  - (8) Complete performance of such part of the work as shall not have been terminated by the Notice of Termination; and
  - (9) Take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to this contract which is in the possession of the Contractor and in which the Government has or may acquire an interest.

At any time after expiration of the plant clearance period, as defined in Subpart 1-8.1 of the Federal Procurement Regulations (41 CFR 1-8.1), as the definition may be amended from time to time, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of any or all

items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by the Contracting Officer, and may request the Government to remove such items or enter into a storage agreement covering them, but not later than fifteen (15) days thereafter, the Government will accept title to such items and remove them or enter into a storage agreement covering the same: Provided, that the list submitted shall be subject to verification by the Contracting Officer upon removal of the items or, if the items are stored, within forty-five (45) days from the date of submission of the list, and any necessary adjustment to correct the list as submitted shall be made prior to final settlement.

- (c) After receipt of a Notice of Termination, the Contractor shall submit to the Contracting Officer his termination claim, in the form and with the certification prescribed by the Contracting Officer. Such claim shall be submitted promptly but in no event later than one year from the effective date of termination, unless one or more extensions in writing are granted by the Contracting Officer upon request of the Contractor made in writing within such one-year period or authorized extension thereof. However, if the Contracting Officer determines that the facts justify such action, he may receive and act upon any such termination claim at any time after such one-year period or extension thereof. Upon failure of the Contractor to submit his termination claim within the time allowed, the Contracting Officer may, subject to any review required by the contracting agency's procedures in effect as of the date of execution of this contract, determine, on the basis of information available to him the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.
- (d) Subject to provisions of paragraph (c), and subject to any review required by the contracting agency's procedures in effect as of the date of execution of this contract the Contractor and the Contracting Officer may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this clause, which amount or amounts may include a reasonable allowance for

profit on work done: Provided, that such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. The contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in paragraph (e) of this clause, prescribed the amount to be paid to the Contractor in the event of failure of the Contractor and the Contracting Officer to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this paragraph (d).

- (e) In the event of the failure of the Contractor and the Contracting Officer to agree as provided in paragraph (d) upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, the Contracting Officer shall, subject to any review required by the contracting agency's procedures in effect as of the date of execution of this contract, determine, on the basis of information available to him the amount, if any, due to the Contractor by reason of the termination and shall pay to the Contractor the amounts determined as follows:
- (1) With respect to all contract work performed prior to the effective date of the Notice of Termination, the total (without duplication of any items) of -
- (i) The cost of such work;
- (ii) The cost of settling and paying claims arising out of the termination of work under subcontracts or orders as provided in paragraph (b)(5) above, exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the subcontractor prior to the effective date of the Notice of Termination of work under this contract, which amounts shall be included in the cost on account of which payment is made under (i) above; and

- (iii) A sum, as profit on (i), above, determined by the Contracting Officer pursuant to Subpart 1-8.303 of the Federal Procurement Regulations (41 CFR 1-8.303), in effect as of the date of execution of this contract, to be fair and reasonable: Provided, however, that if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, no profit shall be included or allowed under this subdivision (iii) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss, and
- (2) The reasonable cost of the preservation and protection of property incurred pursuant to paragraph (b)(9); and any other reasonable cost incidental to termination of work under this contract, including expense incidental to the determination of the amount due to the Contractor as the result of the termination of work under this contract.
- The total sum to be paid to the Contractor under (1) above shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. Except for normal spoilage, and except to the extent that the Government shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor under (1) above, the fair value, as determined by the Contracting Officer, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer pursuant to paragraph (b)(7).
- (f) Costs claimed, agreed to, or determined pursuant to paragraphs (c), (d), and (e) of this clause shall be in accordance with the contract cost principles and procedures in Subpart 1-15.2 of the Federal Procurement Regulations (41 CFR 1-15.2) as supplemented or modified by DOEPR Part 9-15.2 (41 CFR 9-15.2) in effect on the date of this contract; and
- (g) The Contractor shall have the right of appeal, under the clause of this contract entitled "Disputes," from any determination made by the Contracting Officer under paragraph (c) or (e) above, except that, if the Contractor has failed to submit his claim within the time provided in paragraph (c) above and has failed to request extension of such time, he shall have no such right of appeal. In any case where the Contracting Officer has made a determination of the amount due under paragraph (c) or (e) above, the Government shall pay to the Contractor the following: (1) if there is no right of appeal hereunder or if no timely appeal has been taken, the amount so determined by the Contracting Officer, or (2) if an appeal has been taken the amount finally determined on such appeal.
- (h) In arriving at the amount due the Contractor under this clause there shall be deducted (1) all unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the terminated portion of this contract, (2) any claim which the Government may have against the Contractor in connection with this contract, and (3) the agreed price for, or the proceeds of sale of, any materials, supplies, or other things kept by the Contractor or sold, pursuant to the provisions of this clause, and not otherwise recovered by or credited to the Government.
- (i) If the termination hereunder be partial prior to the settlement of the terminated portion of this contract, the Contractor may file with the Contracting Officer a request in writing for an equitable adjustment of the price or prices specified in the contract relating to the continued portion of the contract (the portion not terminated by the Notice of Termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices, however, nothing contained herein shall limit the right of the Government and the Contractor to agree upon the amount or amounts to be paid to the Contractor for the completion of the continued portion of the contract when said contract does not contain an established contract price for such continued portion.
- (j) The Government may from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of

this contract whenever in the opinion of the Contracting Officer the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this clause, such excess shall be payable by the Contractor to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury pursuant to Pub. L. 92-41 (50 U.S.C. App. 1215(b)(2)) for the Renegotiation Board, for the period from the date such excess payment is received by the Contractor to the date on which such excess is repaid to the Government: Provided, however, That no interest shall be charged with respect to any such excess payment attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until 10 days after the date of such retention or disposition, or such later date as determined by the Contracting Officer by reason of the circumstances.

- (k) Unless otherwise provided for in this contract, or by applicable statute, the Contractor, from the effective date of termination and for a period of three years after final settlement under this contract, shall preserve and make available to the Government at all reasonable times at the office of the Contractor, but without direct charge to the Government, all his books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under this contract and relating to the work terminated hereunder, or, to the extent approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions thereof.

**CLAUSE 34 DISABLED VETERANS AND VETERANS  
OF THE VIETNAM ERA**

- (a) The Contractor will not discriminate against any employee or applicant for employment because he or she is a disabled veteran or veteran of the Vietnam era in regard to any position for which the employee or applicant for employment is qualified. 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 the

following: employment upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

- (b) The Contractor agrees that all suitable employment openings of the Contractor which exist at the time of the execution of this contract and those which occur during the performance of this contract, including those not generated by this contract and including those occurring at an establishment of the contractor other than the one wherein the contract is being performed but excluding those of independently operated corporate affiliates, shall be listed at an appropriate local office of the State employment service system wherein the opening occurs. The contractor further agrees to provide such reports to such local office regarding employment openings and hires as may be required.

State and local government agencies holding Federal contracts of \$10,000 or more shall also list all their suitable openings with the appropriate office of the State employment service, but are not required to provide those reports set forth in paragraphs (d) and (e).

- (c) Listing of employment openings with the employment service system pursuant to this clause shall be made at least concurrently with the use of any other recruitment source or effort and shall involve the normal obligations which attach to the placing of a bona fide job order, including the acceptance of referrals of veterans and nonveterans. The listing of employment openings does not require the hiring of any particular job applicant or from any particular group of job applicants, and nothing herein is intended to relieve the contractor from any requirements in Executive orders or regulations regarding nondiscrimination in employment.
- (d) The reports required by paragraph (b) of this clause shall include, but not be limited to, periodic reports which shall be filed at least quarterly with the appropriate local office or, where the contractor has more than one hiring location in a State, with the central office of that State employment service. Such reports shall indicate for each hiring location (1) the number of individuals hired during the reporting period, (2) the number of nondisabled

veterans of the Vietnam era hired, (3) the number of disabled veterans of the Vietnam era hired, and (4) the total number of disabled veterans hired. The reports should include covered veterans hired for on-the-job training under 38 U.S.C. 1787. The contractor shall submit a report within 30 days after the end of each reporting period wherein any performance is made on this contract identifying data for each hiring location. The contractor shall maintain at each hiring location copies of the reports submitted until the expiration of one year after final payment under the contract, during which time these reports and related documentation shall be made available, upon request, for examination by any authorized representatives of the Contracting Officer or of the Secretary of Labor. Documentation would include personnel records respecting job openings, recruitment, and placement.

- (e) Whenever the contractor becomes contractually bound to the listing provisions of this clause, it shall advise the 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 provisions and has so advised the State system, there is no need to advise the State system of subsequent contracts. The contractor may advise the State system when it is no longer bound by this contract clause.
- (f) This clause does not apply to the listing of employment openings which occur and are filled outside the 50 States, the District of Columbia, Puerto Rico, Guam, and the Virgin Islands.
- (g) The provisions of paragraphs (b), (c), (d) and (e) of this clause do not apply to openings which the contractor proposes to fill from within his own organization or to fill pursuant to a customary and traditional employer-union hiring arrangement. This exclusion does not apply to a particular opening once an employer decides to consider applicants outside of his own organization or employer-union arrangement for that opening.
- (h) As used in this clause:
  - (1) "All suitable employment openings" includes, but is not limited to, openings which occur in the following job categories: production and non-production; plant and office;

laborers and mechanics; supervisory and non-supervisory; technical; and executive, administrative, and professional openings that are compensated on a salary basis of less than \$25,000 per year. This term includes full-time employment, temporary employment, temporary employment of more than 3 days' duration, and part-time employment. It does not include openings which the contractor proposes to fill from within his own organization or to fill pursuant to a customary and traditional employer-union hiring arrangement nor openings in an educational institution which are restricted to students of that institution. Under the most compelling circumstances an employment opening may not be suitable for listing, including such situations where the needs of the Government cannot reasonably be otherwise supplied, where listing would be contrary to national security, or where the requirement of listing would otherwise not be for the best interest of the Government.

- (2) "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 for serving the area where the employment opening is to be filled, including the District of Columbia, Guam, Puerto Rico, and the Virgin Islands.
- (3) "Openings which the contractor proposes to fill from within his own organization" means employment openings for which no consideration will be given to persons outside the contractor's organization (including any affiliates, subsidiaries, and the parent companies) and includes any openings which the contractor proposes to fill from regulatory established "recall" lists.
- (4) "Openings which the contractor proposes to fill pursuant to a customary and traditional employer-union hiring arrangement" means employment openings which the contractor proposes to fill from union halls, which is part of the customary and traditional hiring relationship which exists between the contractor and representatives of his employees.

- (i) The contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.
- (j) In the event of the contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.
- (k) The contractor agrees to post in conspicuous places available to employees and applicants for employment notices in a form to be prescribed by the Director, provided by or through the Contracting Officer. Such notice shall state 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 for employment, and the rights of applicants and employees.
- (l) The contractor will 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 terms of the Vietnam Era Veteran's Readjustment Assistance Act and is committed to take affirmative action to employ and advance in employment qualified disabled veterans and veterans of the Vietnam era.
- (m) The contractor will include the provisions of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary issued pursuant to the Act, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance.

**CLAUSE 35 EMPLOYMENT OF THE HANDICAPPED**

- (a) The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. The contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all

employment practices such as the following: employment, upgrading, demotion or transfer, recruitment, advertising, lay-off or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

- (b) The contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Rehabilitation Act of 1973, as amended.
- (c) In the event of the Contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations and relevant orders of the Secretary of Labor issued pursuant to the Act.
- (d) The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, Office of Federal Contract Compliance Programs, Department of Labor, provided by or through the Contracting Officer. Such notices shall state the contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment, and the rights of applicants and employees.
- (e) The Contractor will 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 physically and mentally handicapped individuals.
- (f) The contractor will include the provisions of this clause in every subcontract or purchase order of \$2,500 or more unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 503 of the Act, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Director, Office of Federal Contract Compliance Programs, may direct to enforce such provisions, including action for noncompliance.

CLAUSE 36 CLEAN AIR AND WATER

(Applicable only if the contract exceeds \$100,000, or the Contracting Officer had determined that the orders under an indefinite quantity contract in any one year will exceed \$100,000, or a facility to be used has been the subject of a conviction under the Clean Air Act (42 U.S.C. 1857c-8(c)(1)) or the Federal Water Pollution Control Act (33 U.S.C. 1319(c)) and is listed by EPA, or the contract is not otherwise exempt.)

(a) The Contractor agrees as follows:

- (1) To comply with all the requirements of Section 114 of the Clean Air Act, as amended (42 U.S.C. 1857, et. seq., as amended by Public Law 91-604) and Section 308 of the Federal Water Pollution Control Act (33 U.S.C. 1251 et. seq., as amended by Public Law 92-500), respectively, relating to inspection, monitoring, entry, reports, and information, as well as other requirements specified in Section 114 and Section 308 of the Air Act and the Water Act, respectively, and all regulations and guidelines issued thereunder before the award of this contract.
- (2) That no portion of the work required by this prime contract will be performed in a facility listed on the Environmental Protection Agency List of Violating Facilities on the date when this contract was awarded unless and until the EPA eliminates the name of such facility or facilities from such listing.
- (3) To use his best efforts to comply with Clean Air Standards and Clean Water Standards at the facilities in which the contract is being performed.
- (4) To insert the substance of the provisions of this clause in any nonexempt subcontract, including this paragraph (a)(4).

(b) The terms used in this clause have the following meanings:

- (1) The term "Air Act" means the Clean Air Act, as amended (42 U.S.C. 1857 et. seq., as amended by Public Law 91-604).
- (2) The term "Water Act" means Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., as amended by Public Law 92-500).

(3) The term "clean air standards" means any enforceable rules, regulations, guidelines, standards, limitations, orders, controls, prohibitions, or other requirements which are contained in, issued under, or otherwise adopted pursuant to the Air Act or Executive Order 11738, an applicable implementation plan as described in Section 110(d) of the Clean Air Act (42 U.S.C. 1857c-5(d)), an approved implementation procedure or plan under Section III(c) or Section III(d), respectively, of the Air Act (42 U.S.C. 1857c-6(c) or (d)), or an approved implementation procedure under Section 112(d) of the Air Act (42 U.S.C. 1857(d)).

(4) The term "clean water standards" means any enforceable limitation, control, condition, prohibition, standard, or other requirement which is promulgated pursuant to the Water Act or contained in a permit issued to a discharger by the Environmental Protection Agency or by a State under an approved program, as authorized by Section 402 of the Water Act (33 U.S.C. 1342), or by a local government to ensure compliance with pretreatment regulations as required by Section 307 of the Water Act (33 U.S.C. 1317).

(5) The term "compliance" means compliance with clean air or water standards. Compliance shall also mean compliance with a schedule or plan ordered or approved by a court of competent jurisdiction, the Environmental Protection Agency or an air or water pollution control agency in accordance with the requirement of the Air Act or Water Act and regulations issued pursuant thereto.

(6) The term "facility" means any building, plant, installation, structure, mine, vessel or other floating craft, location, or site of operations, owned, leased, or supervised by a Contractor or subcontractor, to be utilized in the performance of a contract or subcontract. Where a location or site of operations contains or includes more than one building, plant, installation, or structure, the entire location shall be deemed to be a facility except where the Director, Office of Federal Activities, Environmental Protection Agency, determines that independent facilities are collocated in one geographical area.

**CLAUSE 37 NOTICE AND ASSISTANCE REGARDING  
PATENT AND COPYRIGHT INFRINGEMENT**

The provisions of this clause shall be applicable only if the amount of this contract exceeds \$10,000.

- (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 hereunder, 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) This clause shall be included in all subcontracts.

**CLAUSE 38 REPORTING OF ROYALTIES**

If this contract is in an amount which exceeds \$10,000 and if any royalty payments are directly involved in the contract or are reflected in the contract price to the Government, the Contractor agrees to report in writing to the patent counsel (with notification by Patent Counsel to the Contracting Officer) during the performance of this contract and prior to its completion or final settlement the amount of any royalties or other payments paid or to be paid by it directly to others in connection with the performance of this contract together with the names and addresses of licensors to whom such payments are made and either the patent numbers involved or such other information as will permit the identification of the patents or other basis on which the royalties are to be paid. The approval of DOE of any individual payments or royalties shall not stop the Government at any time from contesting the enforceability, validity or scope of, or title to, any patent under which a royalty or payments are made.

**CLAUSE 39 RENEGOTIATION**

If this contract is subject to the Renegotiation Act of 1951, as amended, the following provisions shall apply:

- (a) This contract is subject to the Renegotiation Act of 1951 (50 U.S.C. App. 1211, et seq.), as amended, and to any subsequent act of Congress providing for the renegotiation of contracts. Nothing contained in this clause shall impose any renegotiation obligation with respect to this contract or any subcontract hereunder which is not imposed by an act of Congress heretofore or hereafter enacted. Subject to the foregoing, this contract shall be deemed to contain all the provisions required by section 104 of the Renegotiation Act of 1951, and by any such other act, without subsequent contract amendment specifically incorporating such provisions.
- (b) The Contractor agrees to insert the provisions of this clause, including this paragraph (b), in all subcontracts, as that term is defined in section 103g of the Renegotiation Act of 1951, as amended.

**CLAUSE 40 PRICE REDUCTION FOR DEFECTIVE COST  
OR PRICING DATA**

If any price, including profit or fee, negotiated in connection with this contract or any cost reimbursable under this contract was increased by any significant sums because:

- (a) The Contractor furnished cost or pricing data which was not accurate, complete and current as certified in the Contractor's Certificate of Current Cost or Pricing Data;
- (b) A subcontractor, pursuant to the clause of this contract entitled "Subcontractor Cost or Pricing Data" or "Subcontractor Cost or Pricing Data - Price Adjustments" or any subcontract clause therein required, furnished cost or pricing data which was not accurate, complete and current as certified in the subcontractor's Certificate of Current Cost or Pricing Data;
- (c) A subcontractor or prospective subcontractor furnished cost or pricing data which was required to be accurate, complete and current and to be submitted to support a subcontract cost estimate furnished by the Contractor but which was not accurate, complete and current as of the date certified in the Contractor's Certificate of Current Cost or Pricing Data; or
- (d) The Contractor or a subcontractor or prospective subcontractor furnished any data, not within (a), (b) or (c) above, which was not accurate as submitted; the



price or cost shall be reduced accordingly and the contract shall be modified in writing as may be necessary to reflect such reduction. However, any reduction in the contract price due to defective subcontract data of a prospective subcontractor when the subcontract was not subsequently awarded to such subcontractor, will be limited to the amount (plus applicable overhead and profit markup) by which the actual subcontract, or actual cost to the Contractor if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor: Provided, The actual subcontract price was not affected by defective cost or pricing data.

(Note: Since the contract is subject to reduction under this clause by reason of defective cost or pricing data submitted in connection with certain subcontracts, it is expected that the Contractor may wish to include a clause in each such subcontract requiring the subcontractor to appropriately indemnify the Contractor. It is also expected that any subcontractor subject to such indemnification will generally require substantially similar indemnification for defective cost or pricing data required to be submitted by his lower tier subcontractors.)

#### CLAUSE 41 PERFORMANCE OF WORK BY CONTRACTOR

The Contractor shall perform on the site, and with his own organization, work equivalent to at least (twelve) percent (12%) of the total amount of work to be performed under the contract. If, during the progress of the work hereunder, the Contractor requests a reduction in such percentage, and the Contracting Officer determines that it would be to the advantage of the Government, the percentage of the work required to be performed by the Contractor may be reduced with the written approval of the Contracting Officer.

#### CLAUSE 42 USE OF U. S. FLAG COMMERCIAL VESSELS

(a) The Cargo Preference Act of 1954 (Pub. L. 664, August 26, 1954, 68 Stat. 832, 46 U.S.C. 1241 (b)), requires that Federal departments or agencies shall transport at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) of equipment, materials, or commodities which may be transported on ocean vessels on privately owned United States flag commercial vessels. Such transportation shall be accomplished whenever:

- (1) Any equipment, materials, or commodities, within or outside the United States, which may be transported by ocean vessel, are:
  - (A) Procured, contracted for, or otherwise obtained for the agency's account; or
  - (B) Furnished to or for the account of any foreign nation without provision for reimbursement.
- (2) Funds or credits are advanced or the convertibility of foreign currencies is guaranteed in connection with furnishing such equipment, materials, or commodities which may be transported by ocean vessel.

Note - This requirement does not apply to small purchases as defined in 41 CFR 1-3.6 or to cargoes carried in the vessels of the Panama Canal Company.

(b) The Contractor agrees as follows:

- (1) To utilize privately owned United States flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved whenever shipping any equipment, material, or commodities under the conditions set forth in (a) above pursuant to this contract to the extent such vessels are available at fair and reasonable rates for United States flag commercial vessels.

Note - Guidance regarding fair and reasonable rates for United States flag vessels may be obtained from the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, D. C. 20230: Area Code 202, phone 377-3449.

- (2) To furnish, within 15 working days following the date of loading for shipments originating within the United States or within 25 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill of lading in English for each shipment of cargo covered by the provisions in (a) above to both the Contracting Officer (through the prime contractor in the case of subcontractor bills of lading) and

to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, D. C. 20230.

- (3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract except for small purchases as defined in 41 CFR 1-3.6.

#### CLAUSE 43 AUDIT

(a) General.

The Contracting Officer or his representatives shall have the audit and inspection rights described in the applicable paragraphs (b), (c) and (d) below.

(b) Examination of costs.

If this is a cost-reimbursement type, incentive, time and materials, labor hour, or price redeterminable contract, or any combination thereof, the Contractor shall maintain, and the Contracting Officer or his representatives shall have the right to examine books, records, documents, and other evidence and accounting procedures and practices, sufficient to reflect properly all direct and indirect costs of whatever nature claimed to have been incurred and anticipated to be incurred for the performance of this contract. Such right of examination shall include inspection at all reasonable times of the Contractor's plants or such parts thereof, as may be engaged in the performance of this contract.

(c) Cost or pricing data.

If the Contractor submitted cost or pricing data in connection with the pricing of this contract or any change or modification thereto, unless such pricing was based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation, the Contracting Officer or his representatives who are employees of the United States Government shall have the right to examine all books, records, documents and other data of the Contractor related to the negotiation, pricing or performance of such contract, change or modification, for the purpose of evaluating the accuracy, completeness and currency of the cost or pricing data submitted.

Additionally, in the case of pricing any change or modification exceeding \$100,000 to formally advertised contracts, the Comptroller General of the United States or his representatives who are employees of the United States Government shall have such rights. The right of examination shall extend to all documents necessary to permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein.

(d) Availability.

The materials described in (b) and (c) above, shall be made available at the office of the Contractor, at all reasonable times, for inspection, audit or reproduction, until the expiration of 3 years from the date of final payment under this contract or such lesser time specified in Part 1-20 of the Federal Procurement Regulations (41 CFR Part 1-20) and for such longer period, if any, as is required by applicable statute or by other clauses of this contract, or by (1) and (2) below:

- (1) If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for a period of 3 years from the date of any resulting final settlement.

- (2) Records which relate to appeals under the "Disputes" clause of this contract, or litigation or the settlement of claims arising out of the performance of this contract, shall be made available until such appeals, litigation, or claims have been disposed of.

- (e) The Contractor shall insert a clause containing all the provisions of this clause, including this paragraph (e), in all subcontracts hereunder except altered as necessary for proper identification of the contracting parties and the Contracting Officer under the Government prime contract.

#### CLAUSE 44 SUBCONTRACTOR COST OR PRICING DATA

- (a) The Contractor shall require subcontractors hereunder to submit, actually or by specific identification in writing, cost or pricing data under the following circumstances:

- (1) Prior to the award of any subcontract the amount of which is expected to exceed \$100,000 when entered into;
  - (2) Prior to the pricing of any subcontract modification which involves aggregate increases and/or decreases in costs plus applicable profits expected to exceed \$100,000; except where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.
- (b) The Contractor shall require subcontractors to certify, in substantially the same form as that used in the certificate by the Prime Contractor to the Government, that to the best of their knowledge and belief, the cost and pricing data submitted under (a) above is accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract change or modification.
  - (c) The Contractor shall insert the substance of this clause including this paragraph (c) in each subcontract hereunder which exceeds \$100,000 when entered into except where the price thereof is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation. In each such excepted subcontract hereunder in excess of \$100,000, the Contractor shall insert the substance of the following clause:

SUBCONTRACTOR COST OR PRICING DATA -  
PRICE ADJUSTMENTS

- (a) Paragraphs (b) and (c) of this clause shall become operative only with respect to any modification made pursuant to one or more provisions of this contract which involves aggregate increases and/or decreases in costs plus applicable profits expected to exceed \$100,000. The requirements of this clause shall be limited to such contract modifications.
- (b) The Contractor shall require subcontractors hereunder to submit, actually or by specific identification in writing, cost or pricing data under the following circumstances:

- (1) Prior to award of any subcontract, the amount of which is expected to exceed \$100,000 when entered into;
  - (2) Prior to the pricing of any subcontract modification which involves aggregate increases and/or decreases in costs plus applicable profits expected to exceed \$100,000; except where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.
- (c) The Contractor shall require subcontractors to certify, in substantially the same form so that used in the certificate by the Prime Contractor to the Government, that to the best of their knowledge and belief the cost and pricing data submitted under (b) above is accurate, complete and current as of the date of agreement on the negotiated price of the subcontract or subcontract change or modification.
  - (d) The Contractor shall insert the substance of this clause including this paragraph (d) in each subcontract hereunder which exceeds \$100,000 when entered into.

CLAUSE 45 SUBCONTRACTING PLAN FOR SMALL BUSINESS CONCERNS AND SMALL BUSINESS CONCERNS OWNED AND CONTROLLED BY SOCIALLY AND ECONOMICALLY DISADVANTAGED INDIVIDUALS (applicable if this contract exceeds \$500,000)

- (a) The Contractor agrees to comply in good faith with the small and small disadvantaged business concerns subcontracting plan approved by the Contracting Officer which is hereby incorporated in and made a part of this contract as Attachment F. In this connection, the Contractor shall:
  - (1) Use his best effort to attain such percentage goals as may be set forth in the plan;
  - (2) Designate an individual who will:
    - (i) maintain liaison with the Government on matters relating to small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals;
    - (ii) supervise compliance with the clause entitled "Utilization of Small Business Concerns and

Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals;" and (iii) administer the Contractor's plan.

- (3) Provide adequate and timely consideration of the potentialities of small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals in all "make-or-buy" decisions.
- (4) Assure that small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals will have an equitable opportunity to compete for subcontracts, particularly by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation of such concerns. Where the Contractor's lists of potential subcontractors which are small business and small business concerns owned and controlled by socially and economically disadvantaged individuals are excessively long, reasonable effort shall be made to give all such concerns an opportunity to compete over a period of time.
- (5) Maintain records showing: (i) whether each prospective subcontractor is a small business concern or a small business concern owned and controlled by socially and economically disadvantaged individuals; (ii) procedures which have been adopted to comply with the plan and the policies set forth in this clause; and (iii) with respect to the letting of any subcontract (including purchase orders) exceeding \$10,000, information substantially as follows:
  - (A) Whether the award went to large business, small business, or small business owned and controlled by socially and economically disadvantaged individuals.
  - (B) Whether small business concerns or small business concerns owned and controlled by socially and economically disadvantaged individuals were solicited.

(C) The reason for nonsolicitation of small business concerns or small business concerns owned and controlled by socially and economically disadvantaged individuals if such was the case.

(D) The reason for failure of small business concerns or small business concerns owned and controlled by socially and economically disadvantaged individuals to receive the award if such was the case when such firms were solicited.

The records maintained in accordance with (5)(iii) above may be in such form as the Contractor may determine, and the information shall be summarized quarterly and submitted by the purchasing department of each individual plant or division to the Contractor's cognizant liaison officer for small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals. Such quarterly summaries will be considered to be management records only and need not be submitted routinely to the Government; however, records maintained pursuant to this clause will be kept available for review by the Government until the expiration of one year after the expiration of this contract, or for such longer period as may be required by any other clause of this contract or by applicable law or regulation.

(6) Notify the Contracting Officer before soliciting bids or quotations on any subcontract (including purchase orders) in excess of \$10,000 if (i) no small business concern or small business concern owned and controlled by socially and economically disadvantaged individuals is to be solicited, and (ii) the Contracting Officer's consent to the subcontract (or ratification) is required by a "Subcontracts" clause in this contract. Such notice will state the Contractor's reasons for nonsolicitation of small business concerns or small business concerns owned and controlled by socially and economically disadvantaged individuals and will be given as

early in the procurement cycle as possible so that the Contracting Officer may give Small Business Administration (SBA) timely notice to permit SBA a reasonable period to suggest potentially qualified small business concerns or small business concerns owned and controlled by socially and economically disadvantaged individuals through the Contracting Officer. In no case will the procurement action be held up when to do so would, in the Contractor's judgement, delay performance under the contract.

- (7) Include the "Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals" clause in all subcontracts which offer further subcontracting opportunities.
  - (8) Cooperate in any studies or surveys of the Contractor's subcontracting procedures and practices as may be required by the Department of Energy or the Small Business Administration.
  - (9) Submit quarterly reports of subcontracting to small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals on such forms as may be specified elsewhere in this contract.
- (b) The Contractor agrees that, in the event he fails to comply in good faith with his contractual obligations concerning the plan or the clause entitled "Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals" this contract may be terminated, in whole or in part, for default.
- (c) The Contractor further agrees to insert in all subcontracts hereunder (except those with small business concerns) which contain the clause entitled "Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals" and which may exceed \$1,000,000 in the case of a subcontract for the construction of any public facility or in excess of \$500,000 in the case of all other subcontracts provisions which shall conform substantially to the language of this clause,

including this paragraph (c), and to notify the Contracting Officer of the names of such subcontractors.

- (d) The provisions of this clause shall not apply to small business concerns.

#### CLAUSE 46 COMPETITION IN SUBCONTRACTING

The Contractor shall select subcontractors (including suppliers) on a competitive basis to the maximum practicable extent consistent with the objectives and requirements of the contract.

#### CLAUSE 47 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES

- (a) Whenever the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this contract, the Contractor shall immediately give notice thereof, including all relevant information with respect thereto, to the Contracting Officer.
- (b) The Contractor agrees to insert the substance of this clause, including this paragraph (b), in any subcontract hereunder as to which a labor dispute may delay the timely performance of this contract; except that each such subcontract shall provide that in the event its timely performance is delayed or threatened by delay by any actual or potential labor dispute, the subcontractor shall immediately notify his next higher tier subcontractor, or the Prime Contractor, as the case may be, of all relevant information with respect to such disputes.

#### CLAUSE 48 RIGHTS IN TECHNICAL DATA

##### (a) Definitions

- (1) "Technical data" means recorded information regardless of form or characteristic, of a scientific or technical nature. It may, for example, document research, experimental, developmental, or demonstration, or engineering work, or be usable or used to define a design or process, or to procure, produce, support, maintain, or operate material. The data may be graphic or pictorial delineations in media such as drawings or photographs, text in specifications or related performance of design type documents or computer software (including computer programs, computer

software data bases, and computer software documentation). Examples of technical data include research and engineering data, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identification, and related information. Technical data as used herein does not include financial reports, cost analyses, and other information incidental to contract administration.

- (2) "Proprietary data" means technical data which embody trade secrets developed at private expense, such as design procedures or techniques, chemical composition of materials, or manufacturing methods, processes, or treatments, including minor modifications thereof, provided that such data:

(i) Are not generally known or available from other sources without obligation concerning their confidentiality;

(ii) Have not been made available by the owner to others without obligation concerning its confidentiality; and

(iii) Are not already available to the Government without obligation concerning their confidentiality.

- (3) "Contract data" means technical data first produced in the performance of the contract, technical data which are specified to be delivered under the contract, technical data that may be called for under the Additional Technical Data Requirements clause of the contract, if any, or technical data actually delivered in connection with the contract.

- (4) "Unlimited rights" means rights to use, duplicate, or disclose technical data, in whole or in part, in any manner and for any purpose whatsoever, and to permit others to do so.

(b) Allocation of rights

- (1) The Government shall have:

(i) Unlimited rights in contract data except as otherwise provided below with respect to proprietary data.

(ii) The right to remove, cancel, correct or ignore any marking not authorized by the terms of this contract on any technical data furnished hereunder, if in response to a written inquiry by DOE concerning the propriety of the markings, the Contractor fails to respond thereto within 60 days or fails to substantiate the propriety of the markings. In either case DOE will notify the Contractor of the action taken.

(iii) No rights under this contract in any technical data which are not contract data.

- (2) The Contractor shall have:

(i) The right to withhold proprietary data in accordance with the provisions of this clause; and

(ii) The right to use for its private purposes, subject to patent, security or other provisions of this contract, contract data it first produces in the performance of this contract provided the data requirements of this contract have been met as of the date of the private use of such data. The Contractor agrees that to the extent it receives or is given access to proprietary data or other technical, business or financial data in the form of recorded information from DOE or a DOE contractor or subcontractor, the Contractor shall treat such data in accordance with any restrictive legend contained thereon, unless use is specifically authorized by prior written approval of the Contracting Officer.

- (3) Nothing contained in this "Rights in Technical Data" clause shall imply a license to the Government under any patent or be construed as affecting the scope of any licenses or other rights otherwise granted to the Government under any patent.

(c) Copyrighted material

- (1) The Contractor shall not, without prior written authorization of the Contracting Officer, establish a claim to statutory copyright in any contract data first produced in the performance of the contract. To the extent such authorization is granted, the Government reserves for itself and others acting on its behalf a royalty-free, non-exclusive, irrevocable, world-wide license for Governmental purposes to publish, distribute, translate, duplicate, exhibit and perform any such data copyrighted by the Contractor.
- (2) The Contractor agrees not to include in the technical data delivered under the contract any material copyrighted by the Contractor and not to knowingly include any material copyrighted by others without first granting or obtaining at no cost a license therein for the benefit of the Government of the same scope as set forth in paragraph (c)(1) above. If such royalty-free license is unavailable and the Contractor nevertheless determines that such copyrighted material must be included in the technical data to be delivered, rather than merely incorporated therein by reference, the Contractor shall obtain the written authorization of the Contracting Officer to include such copyrighted material in the technical data prior to its delivery.

(d) Subcontracting

It is the responsibility of the Contractor to obtain from its subcontractors technical data and rights therein, on behalf of the Government, necessary to fulfill the Contractor's obligations to the Government with respect to such data. In the event of refusal by a subcontractor to accept a clause affording the Government such rights, the Contractor shall:

- (1) Promptly submit written notice to the Contracting Officer setting forth reasons for the subcontractor refusal and other pertinent information which may expedite disposition of the matter; and
- (2) Not proceed with the subcontract without the written authorization of the Contracting Officer.

(e) Withholding of proprietary data

Notwithstanding the inclusion of the "Additional Technical Data Requirements" clause in this contract or any provision of this contract specifying the delivery of technical data, the Contractor may withhold proprietary data from delivery, provided that the Contractor furnishes in lieu of any such proprietary data so withheld technical data disclosing the source, size, configuration, mating and attachment characteristics, functional characteristics and performance requirements ("Form, Fit and Function" data, e.g., specification control drawings, catalog sheets, envelope drawings, etc.) or a general description of such proprietary data where "Form, Fit and Function" data are not applicable. The Government shall acquire no rights to any proprietary data so withheld except that such data shall be subject to the "inspection rights" provisions of paragraph (f), and, if included, the "Limited rights in proprietary data" provisions of paragraph (g) and the "Contractor licensing" provisions of paragraph (h).

(f) Inspection rights

Except as may be otherwise specified in this contract for specific items of proprietary data which are not subject to this paragraph, the Contracting Officer's representatives, at all reasonable times up to three (3) years after final payment under this contract, may inspect at the Contractor's facility any proprietary data withheld under paragraph (e) and not furnished under paragraph (g) for the purposes of verifying that such data properly fell within the withholding provision of paragraph (e), or for evaluating work performance.

CLAUSE 49 AUTHORIZATION AND CONSENT

The Government hereby gives its authorization and consent (without prejudice to any rights of indemnification) for all use and manufacture, in the performance of this contract or any part hereof or any amendment hereto or any subcontract hereunder (including any lower-tier subcontract), of any invention described in and covered by a patent of the United States:

- (a) Embodied in the structure of composition of any clause the delivery of which is accepted by the Government under this contract, or

- (b) Utilized in the machinery, tools or methods the use of which necessarily results from compliance by the Contractor or the using subcontractor with (i) specifications or written provisions now or hereafter 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 clauses, 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.

#### CLAUSE 50 GOVERNMENT-FURNISHED PROPERTY

- (a) The Government shall not be obligated to furnish any property whatever to the Contractor except to the extent, if any, that provision is explicitly made in the technical sections of the specifications, or the drawings for the furnishing by the Government to the Contractor, as free issue, of property to be incorporated or installed in the work or used in its performance. The following provisions shall be applicable if the Government is to furnish any property to the Contractor.
- (b) The construction schedules set forth in this contract are based upon expectation that the Government-furnished property, referred to in the SCHEDULE OF GOVERNMENT-FURNISHED MATERIALS paragraph of the Technical Information to the specifications of this contract, will be delivered on or before the estimated data available as set forth in the Schedule. In the event that such Government-furnished property is not delivered to the Contractor by such time, the Contracting Officer shall, if requested by the Contractor, determine if any delay has been occasioned the Contractor thereby, and if so shall grant a reasonable extension of the time for completion of performance. The Government shall not be liable to the Contractor for damages or loss of profit by reason of any delay in delivery of said Government-furnished property, except that in case of such delay, upon written request of the Contractor, an equitable adjustment shall be made in the construction schedule of this contract, or price, or both, and in other contractual provisions affected thereby.

in accordance with the procedures provided for in the Clause entitled "Changes".

- (c) Title to all Government-furnished or Contractor-acquired property shall remain in the Government. Title thereto shall not be affected by the incorporation or attachment thereof to any property not owned by the Government, nor shall any such property, or any part thereof, be or become a fixture or lose its identity as personalty by reason of affixation to any realty. The Contractor shall maintain adequate property control records of such property consistent with good business practice and as may be prescribed by the Contracting Officer; and shall cause all such property to be clearly marked (if not so marked) to show that it is the property of the Government.
- (d) Government-furnished or Contractor-acquired property shall be used only for the performance of this contract.
- (e) The Contractor shall, in accordance with sound industrial practice and without additional cost to the Government, maintain in operating condition, repair, protect, and preserve such Government-furnished or Contractor-acquired property until disposed of by the Contractor in accordance with this Article. Should any replacement of such property become necessary during the term of this contract other than by reason of the negligence or fault of the Contractor, the same shall be made by the Contractor at the direction of, and for the account, and at the cost of, the DOE and the title thereto shall vest in the Government and any delay occasioned thereby shall be considered an excusable delay under this contract.
- (f) Unless otherwise provided in this contract, the Contractor assumes the risk of, and shall be responsible for, any loss of or damage to Government-furnished property or Contractor-acquired property in its possession, except for reasonable wear and tear and except to the extent that such property is consumed in the performance of this contract.
- (g) The Government shall at all times have access to the premises wherein any Government-furnished or Contractor-acquired property is located.



(h) Upon completion of this contract, the Contractor shall submit, in a form acceptable to the Contracting Officer, inventory schedules covering all items of Government-furnished or Contractor acquired property not consumed in the performance of this contract (including any resulting scrap), or not theretofore delivered to the Government, and shall hold the same at no charge to the DOE for a period of 60 days, unless the period of time is extended by mutual agreement. At the expiration of such period or upon the Contracting Officer's earlier order, the Contractor shall dismantle, prepare for shipment and shall store or deliver said property to the DOE on cars or trucks at Contractor's plant at the expense of the DOE, or make such other disposal of said property as may be directed by the Contracting Officer. The net proceeds of any such disposal shall be credited to the contract price or shall be paid over as the Contracting Officer may direct.

(i) Except as specified elsewhere in the contract such property will be furnished f.o.b. truck at the project site, or in storage at or near the jobsite, and the Contractor will be required to accept delivery when made. All such property will be installed and/or incorporated into the work at the expense of the Contractor unless otherwise indicated herein. Any property so furnished which is in excess upon completion of the work, shall remain the property of the Government. The Contractor shall check the quantity and condition of such Government-furnished property when delivered to him, acknowledge receipt in writing to the Contracting Officer, and in case of damage to, or shortage of, such property, he shall within 24 hours, report in writing such damage and/or shortage to the Contracting Officer.

#### CLAUSE 51 CONFLICT PROVISIONS

In the event of conflict or ambiguity between any of the documents which are a part of this contract either by direct inclusion ork inclusion by reference, the order of precedence of the documents shall be in the following order:

1. General Provisions
2. General Conditions
3. Technical Sections and Drawings

In the case of conflict between the technical sections and drawings, the technical sections shall govern.

Where no inconsistency or conflict exists, a requirement stipulated in one document shall be considered to have been stipulated in all documents.

Unless otherwise specified, the latest revisions (current at the time of the bid opening specified in the Invitations for Bid for this contract) of specifications, publications, standards, technical societies, or testing organizations included as a part of the contractual requirements shall govern.

#### CLAUSE 52 PREFERENCE FOR U. S. FLAG AIR CARRIERS

(a) Pub. L. 93-623 requires that all Federal agencies and Government contractors and subcontractors will use U. S. flag air carriers for international air transportation of personnel (and their personal effects) or property to the extent service by such carriers is available. It further provides that the Comptroller General of the United States shall disallow any expenditure from appropriated funds for international air transportation on other than a U. S. flag air carrier in the absence of satisfactory proof of the necessity therefor.

(b) The Contractor agrees to utilize U. S. flag air carriers for international air transportation of personnel (and their personal effects) or property to the extent service by such carriers is available.

(c) In the event that the Contractor selects a carrier other than a U. S. flag air carrier for international air transportation, he will include a certification on vouchers involving such transportation which is essentially as follows:

#### CERTIFICATION OF UNAVAILABILITY OF U. S. FLAG AIR CARRIERS

I hereby certify that transportation service for personnel (and their personal effects) or property by certificated air carrier was unavailable for the following reasons: (state reasons).

(d) The terms used in this clause have the following meanings:

- (1) "International air transportation" means transportation of persons (and their personal effects) or property by air between a place in the United States and a place outside thereof or between two places both of which are outside the United States.
  - (2) "U. S. flag air carriers" means one of a class of air carriers holding a certificate of public convenience and necessity issued by the Civil Aeronautics Board, approved by the President, authorizing operations between the United States and/or its territories and one or more foreign countries.
  - (3) The term "United States" includes the fifty states, Commonwealth of Puerto Rico, possessions of the United States, and the District of Columbia.
- (e) The Contractor shall include the substance of this clause, including this paragraph (e), in each subcontract or purchase hereunder which may involve international air transportation.

SECTION 4

SECTION GC - GENERAL CONDITIONS

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SECTION 4

SECTION GC - GENERAL CONDITIONS

GC.01 GENERAL

A. Location of Work

This work is to be performed on land owned by Southern California Edison Company, approximately twelve (12) miles southeast of Barstow at Daggett, California in San Bernardino County; approximately one hundred twenty (120) miles northeast of Los Angeles, California.

B. Intent

1. It is the intent of these specifications to describe the quality and character of the materials and equipment to be used and the manner in which work shall be performed.
2. It is intended that the drawings and specifications include everything necessary to finish the entire work properly. Every item necessarily involved may not be specifically mentioned or shown. All systems shall be complete and operable unless clearly indicated otherwise. Items of work or materials which are not intended to be furnished and installed by the Contractor will be marked N.I.C. (Not in Contract). Materials which are furnished by the Government, but are to be installed by the Contractor, will be listed under Government-Furnished Property in the Technical Information.

C. Arrangement of Specifications

1. These specifications have been separated into GENERAL PROVISIONS, GENERAL CONDITIONS, AND TECHNICAL INFORMATION. Such separations are arranged to correspond to the several major work areas, but are not intended to make, nor do they make, the Government an arbiter to establish limits between the Contractor and/or its subcontractors. The arrangement of these specifications in no way relieves the Contractor of the responsibility to provide a complete job.
2. No responsibility whatever, either expressed or implied, is assumed by the Government, or its employees or agents, for omissions or duplications by the Contractor due to errors, if any, in arrangement of these specifications.

3. Specific items listed under "Scope," "Scope of Work," or "Work Included," "Work Specified Elsewhere," or "Work Not Included," for each subsidiary specification or section are not necessarily all inclusive.

GC.02 INTERPRETATION OF TERMS

Definitions

- A. The word "Contractor" used in the specifications shall mean the Contractor executing the Contract.
- B. The words "Administration," "Government," "ERDA," or "DOE," as used in the specifications shall mean, and include, the U.S. Department of Energy, San Francisco Operations Office, 1333 Broadway, Oakland, California 94612.
- C. In the specifications, the use of the term "Construction Manager" shall mean the duly authorized representative of the Contracting Officer. Communications with the Construction Manager shall be addressed to: Townsend and Bostum, Inc., 9550 Flair Drive, Suite 210, El Monte, California 91631.
- D. A subcontractor is defined as one who contracts with the Contractor to furnish materials and labor, or labor only, for performance of any portion of the work to be performed under this contract. A Sub-subcontractor is defined as the next tier below the subcontractor. Suppliers of materials only, for the purpose of this listing, are not deemed to be subcontractors.
- E. The words Solar Facility Design Integrator (SFDI) as used in the specifications shall mean McDonnell Douglas Astronautics Company acting under its Contract with DOE.

GC.03 PROGRESS CHARTS AND PROSECUTION OF THE WORK

A. Progress Charts

1. Within fifteen (15) days after the date of receipt of written Notice to Proceed, the Contractor shall submit six (6) copies of a practicable schedule of its proposed construction progress through the Construction Manager for the Contracting Officer's approval.
2. The progress schedule shall show the order in which the Contractor proposes to accomplish the project's salient features by use of a bar chart or graphic network diagram. A sample of one of these is furnished in the GENERAL CONDITIONS. If a bar chart is used, a bar

shall represent each major cost item, show a start and completion date, and shall indicate the percentage of work scheduled for completion at monthly progress intervals. A composite "S" curve shall be superimposed over the bar chart to indicate total progress. If a graphic network diagram is used, the diagram shall consist of an arrow diagram, or a geometric figure and connector diagram, which clearly depicts the order and interdependency of activities planned by the Contractor. The diagram shall be printed neatly and legible drawn to a time scale. The diagram shall show the time for starting and completing each activity and indicate what percentage of the total pay item that each major activity represents. A composite "S" curve shall be used to indicate total progress.

**B. Prosecution of the Work**

1. The Contractor shall furnish sufficient forces, construction plant, and equipment, and shall work such hours, including night shifts, overtime operations, and Sunday and holiday work as may be necessary, to insure the prosecution of the work in accordance with the approved progress schedule. Before commencing work, the Contractor shall furnish a program of shifts, hours and days per week to be worked, and the approximate number of persons per shift. The Contractor shall notify the Contracting Officer 48 hours in advance of any change to the program.
2. If, in the opinion of the Contracting Officer, the Contractor falls behind the progress schedule, the Contractor shall take such steps as may be necessary to improve his progress, and the Contracting Officer may require him to increase the number of shifts, or overtime operations, days of work, or the amount of construction plant, or all of them, and to submit for approval such supplementary schedules or schedules in chart form as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the Government.
3. Failure of the Contractor to comply with the requirements of this provision shall be grounds for determination by the Contracting Officer that the Contractor is not prosecuting the work with such diligence as will insure completion of the contract within the time specified (see the clause of the General Provisions entitled "Termination for Default - Damages for Delay - Time Extensions").

**GC.04 LISTING OF SUBCONTRACTORS**

In accordance with the General Provisions, the Contractor shall deliver within ten (10) days after date of receipt of written Notice to Proceed, six (6) copies of a complete list of subcontractors and sub-subcontractors, including names, addresses, and telephone numbers to the Construction Manager. If changes in the List of Subcontractors or Sub-subcontractors are made subsequent to the initial submittal, a corrected list shall be submitted on an expedited basis.

**GC.05 BREAKDOWN OF CONTRACT PRICE**

- A. In accordance with Article 7 of the General Provisions, the Contractor shall submit to the Contracting Officer no later than fifteen (15) days after date of receipt of written Notice to Proceed seven (7) copies of a breakdown on the contract price for each work item and for outside utilities, itemizing the estimated cost and quantities of each class of work, the total of which shall equal the Contract Price. Mobilization, preparatory work, costs of performance and payment bonds, profit, and supervision costs shall be prorated to each appropriate work item.
- B. The breakdown, when approved, shall become the basis for determining the value of work performed for purposes of partial progress payment. Three (3) copies of the "Breakdown of Contract Price" shall be submitted to the Construction Manager with each monthly progress pay estimate (See Exhibit I).
- C. The Contracting Officer shall have the right to revise the breakdown submitted, prior to his approval, if in his opinion, the items indicated do not conform to their true value. The breakdown will be revised at the same time revisions become necessary in the progress schedule.
- D. Progress payments will be computed on a basis of their percentage of completion of the work in place, multiplied by the lump-sum contract price, the percentage of completion representing the ratio of the value of that portion of the work completed to the total price, as determined by the application of prices shown in the approved breakdown of bid.
- E. No payment(s) will be made to the Contractor until the breakdown of bid and the progress schedule have been submitted to and approved by the Contracting Officer.

GC.06 CONSTRUCTION HEALTH AND SAFETY REQUIREMENTS

- A. All site work performed under this Contract shall be performed in a safe and orderly manner so as not to create a hazard to Health and Property. All Work shall be conducted in accordance with the established safety orders of Title 8, California Administrative Code, Subchapter 4, Construction Safety Order as described in the Construction Safety Program (Exhibit I).

GC.07 PROJECT BULLETIN BOARD

- A. The Contractor shall furnish, install, and maintain, during the entire period covered by this contract, a protected bulletin board approximately 3 feet high and 5 feet long constructed to prevent damage from wind and rain to contents. It shall be mounted in a conspicuous place, as approved by the Construction Manager, accessible to all employees of the Contractor and Subcontractors. This bulletin board will remain the property of the Contractor.
- B. The following notices shall be displayed at all times on this board by the Contractor (the bulletin board may also be used for other notices):
1. Equal Employment Opportunity Poster.
  2. Schedule of Minimum Wage Ranges as required by the Davis-Bacon Act (Appendix A to the General Provisions hereunder).
  3. California State Safety Poster "Notice to Employee."
  4. Emergency information to include name, address, and telephone number of: doctor, insurance carrier, ambulance service, fire department, and any other requested by Government.
  5. Site Rules.

GC.08 DATUM

- A. The Contractor shall lay out his work from base lines and grades established by the Government and the Contractor shall be responsible for all measurements in connection therewith. The Contractor will be held responsible for the proper execution of the work to such lines and grades required by the horizontal and vertical control noted on the drawings.

B. If, through the negligence of the Contractor, any such permanent monument is moved or destroyed, it shall be replaced by the Construction Manager at the expense of the Contractor.

#### GC.09 PREScribed CODES, STANDARDS, AND PERMITS

A. All work performed shall be in accordance with the requirements of the latest edition of the codes and standards listed below which shall be considered minimum requirements (as applicable).

##### Standards and Codes

1. 29 CFR Part 1926, Safety and Health Regulations for Construction, Department of Labor.
2. 29 CFR Part 1910, Occupational Safety and Health Standards, Department of Labor.
3. American National Standards for Safety (ANSI), as applicable.
4. National Fire Codes (NFPA).
5. Federal, State, and Local Pollution Regulations.
6. Uniform Building and Mechanical Codes (International Conference of Building Officials), Volumes I and II.
7. Uniform Plumbing Code (International Association of Plumbing and Mechanical Officials).
8. California Division of Highways Standard Specifications.
9. General Order No. 95, State of California, Public Utilities Commission, Power Lines and Poles.
10. ASME Boiler and Pressure Vessel Code, Sections I-IX, California Administrative Code, Title 8, Construction Safety Orders, Subchapter 4.
11. American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE).

B. Where difference exist between codes, standards, and referenced specification, the one affording the greatest protection shall govern.

C. Other codes or standards may be involved elsewhere in the construction specifications and drawings and shall apply as if repeated here.

D. Any variances from the codes and standards observed by the Contractor in the specifications and drawings shall be brought to the Construction Manager's attention immediately by notification in writing.

E. All special licenses, permits, and inspections, as may be required for performance and completion of the work under this contract, shall be obtained by the Contractor at his own cost and expense with the exception of those identified in the instructions to bidders.

F. Materials shall be listed by, or bear the seal of, the Underwriter's Laboratories where U.L. requirements apply.

#### GC.10 CONSTRUCTION LIMITS

The Contractor shall confine his operations to the immediate area within the Construction Limits shown on the drawings. When access to areas other than those designated is required, permission must first be obtained through the Construction Manager.

#### GC.11 PROTECTIONS

A. The Contractor shall provide and maintain suitable temporary barricades, fences, or other structures as required for the protection of public traffic and employees; provide walks around any obstructions; and maintain on, or near, the construction area sufficient light to protect all personnel from injury. All barricades must have electrically operated warning lights during hours of darkness. No open flame lights will be permitted.

B. The Contractor shall furnish and install protective closure facilities, such as roofing, canopies, seals at existing buildings where connections or modifications are being made to assure each day that the entry of rain and the elements of weather are guarded against, so that equipment, facilities, and structures are protected and retained in operating condition.

#### GC.12 LIABILITY FOR DAMAGES

The Contractor shall be responsible for all injury or damage to persons or property (including damage to underground property of underground utilities, which are properly indicated in the specifications and/or drawings, or the existence of which is otherwise made known to the Contractor) that occurs as a result of the fault or negligence of the Contractor, or his agents, servants, employees, or subcontractors, in connection with the prosecution of the work; shall be responsible for all materials delivered and work performed until completion and final

acceptance of the construction; and shall protect, defend, indemnify, and hold harmless the U. S. Department of Energy and Townsend and Bottum, Inc., and their employees, and against all claims or suits based upon any such injury or damage arising from said fault or negligence of the Contractor, its agents, servants, employees, or subcontractors.

GC.13 MODIFICATION OR CONNECTION TO EXISTING UTILITIES

If modifications or connections to existing utilities (i.e. water, steam, air, gas, etc.) require an interruption of services, the Contractor must give the Construction Manager written notice four (4) calendar days prior to the desired modification or connection. Four (4) days advance written notice for either temporary or permanent use is required for interruptions to existing electrical services.

GC.14 SHOP, ASSEMBLY, ERECTION DRAWINGS, AND VENDOR DATA

A. Submittals

1. Shop drawings, assembly drawings, erection drawings, and vendor data as required by the specifications, or as otherwise requested by the U.S. Government of Energy, shall be submitted by the Contractor for review, no later than 20 calendar days after the Notice to Proceed, in accordance with the instruction herein. Each submittal shall contain identification for each separable piece of material or equipment literature with respect to job title, contract number, section number, and the specific paragraph of the specifications under which the item is to be furnished.
2. Shop drawings shall also be submitted by the Contractor for proposed rearrangements of equipment and materials. These shop drawings shall be uniform in quality, size, and detail with the contract drawings. All costs resulting from such changes shall be the responsibility of the Contractor.
3. The Contractor shall establish a schedule and procedure for the submittal of shop drawings and vendor data that will insure their timely submittal and follow-up on their approval.
4. It shall be the responsibility of the Contractor to advise the Construction Manager of any submittal which appears to have been delayed and which might, if further delayed, extend completion of the project.

5. Six (6) copies of all shop drawings or vendor data shall be promptly submitted as follows:

Shop Drawings, one (1) copy

Transmittal letter, original, and five (5) copies to:

Townsend & Bottum, Inc.  
P.O. Box 366  
Daggett, California 92327  
ATTN: Construction Manager

6. The shop drawings or vendor data may be prepared by the Contractor or its suppliers, but shall be submitted as the instruments of the Contractor. Therefore, prior to submittal, the Contractor shall ascertain that:
  - a. Equipment and/or materials covered by submittals meet all requirements of contract drawings and specifications and conform to structural and space conditions.
  - b. Requests for substitutions are sufficiently complete in all details to establish equality.
7. Two (2) copies of the shop drawings and vendor data will be returned to the Contractor with appropriate stamps and notations. The Contractor shall, when directed, make indicated changes and corrections, promptly resubmitting six (6) copies as many times as required to obtain approval. If additional marked copies are required by the Contractor, the original submittal shall be increased accordingly.

GC.15 OPERATING INSTRUCTIONS

- A. The Contractor shall furnish the Construction Manager copies of all brochures, operating manuals, including lubrication and maintenance instructions, parts lists, certified wiring and/or piping diagrams, drawings, and relevant data issued by vendors or manufacturers of all fabricated equipment and components included in these specifications. These data must be received by the Construction Manager at least two weeks prior to the operation and testing of the equipment involved. Failure to submit these items, as herein prescribed, will be justification for withholding approval of progress payments.
- B. Each submittal shall contain identification for each separable piece of material or equipment literature with respect to job title, contract number, and the section



number of the specifications under which the item is to be furnished and shall be bound in notebook form.

#### GC.16 COORDINATION

- A. It shall be the Contractor's responsibility to closely coordinate all phases of its work to insure that its work will proceed rapidly and in an orderly manner.

#### GC.16 COORDINATION

- A. It shall be the Contractor's responsibility to closely coordinate all phases of its work to insure that its work will proceed rapidly and in an orderly manner.
- B. The Contractor shall prepare and furnish such drawings, sketches, written explanations, etc., as may be necessary to inform all interested parties of the work. The Contractor shall especially include all pertinent information concerning the attachment and/or passing of the respective trades work in conjunction with other trades.

#### GC.17 CLEAN-UP

- A. During the construction period, the materials to be used in the work shall be kept in an orderly manner, neatly stacked and piled. The Contractor shall keep the project Site clean at all times of all scrap and surplus materials, rubbish, and debris of all descriptions by removal from the Site. Special attention shall be given to location and removal of combustible debris that represents a fire or safety hazard.
- B. Upon completion of the work as a whole, the Contractor shall remove from the site all of its excess construction materials, tools, construction sheds, and equipment. The Contractor shall collect all scrap materials and debris of every description from the site and make suitable disposal off the site or as otherwise directed. The Contractor shall leave the premises in a clean and orderly condition ready for operation.
- C. All work performed under these specifications shall be left thoroughly cleaned of dirt, dust, splatterings of paint, and foreign matter of every description. Cleansing agents shall be of a type which will not be injurious to the surfaces on which they are used. This work shall include cleaning of all glass.

#### GC.18 INSPECTION AND ACCEPTANCE

- A. The work will be performed under the inspection of an authorized representative of the Contracting Officer to insure strict com-

pliance with the contract plans and specifications. The presence or absence of an inspector shall in no way relieve the Contractor from compliance with the contract plans and specifications. Contractor shall make no changes in or deviate from the requirements of the drawings and specifications except by written permission from the Contracting Officer.

- B. The Government reserves the right to inspect materials and workmanship, in whole or in part, at either the place of production, manufacture, shipment, or at the site. Any such inspection and/or acceptance made, after prior written notice, at the place of production, manufacture, or shipment shall be provisional only with final inspection and acceptance to be at the construction site.
- C. Upon receipt of written notice from the Contractor that the work is completed and ready for final inspection and acceptance, the Contracting Officer's Representative, together with the Contractor, shall make a joint inspection of the contract work and note deficiencies, if any. If there are no deficiencies, or when there are only a few minor deficiencies, a final inspection report, stating that the work under the contract has been substantially completed, in accordance with the contract plans and specifications, will jointly be signed.

#### GC.19 WARRANTY

- A. Except as otherwise expressly provided in this contract, the Contractor warrants all work performed to be in accordance with contract requirements and free from defects for one year from the date of final acceptance of the work by the Government. The warranty is supplemental and additional to any specific guarantees or warranties provided for in any other provisions of this contract, and it applies to designs, materials, equipment, and workmanship furnished or performed by the Contractor or any of its subcontractors or suppliers at any tier. The warranty shall not apply to Government-furnished design, or to Government-furnished material or equipment except as to such work as may be performed thereon under the contract. In the event that the Government takes possession of a part of the work prior to final acceptance, the one-year warranty period, with respect to such part of the work, shall run from the date the Government takes such possession.
- B. Upon receipt of written notice from the Government that any part of the work under this contract is defective or has failed, the Contractor shall within a reasonable time and at its own expense (1) remedy all

defects, (2) remedy damage to site, equipment, buildings, or contents thereof owned or under the control of the Government, which is the result of such failure or defect, and (3) restore any work damaged in fulfilling the terms of this clause.

- C. In any case where in fulfilling the requirements of the contract or of any warranty embraced in or required thereby, the Contractor damages any work guaranteed under another contract, it shall at its own expense remedy such damaged work to a condition satisfactory to the Contracting Officer and warrant such remedied work to the same extent as it was warranted under such other contract.
- D. Should the Contractor fail to remedy any failure or defect described in A, B, or C above within a reasonable time after receipt of notice thereof, the Government shall have the right to replace, repair, or otherwise remedy such failure or defect at the Contractor's expense. This warranty shall not delay final acceptance of or final payment for the contract work.
- E. In addition to the foregoing and without limitation to a one-year period, all subcontractors', manufacturers' and suppliers' warranties and guarantees, expressed or implied, respecting any part of the work and any materials or equipment used therein shall be deemed obtained - and shall be enforced - by the Contractor for the benefit of the Government without the necessary of separate transfer or assignment thereof. If directed by the Contracting Officer, the Contractor shall require such subcontractors, manufacturers, and suppliers to execute such warranties and guarantees in writing to the Government.
- F. Except as provided in C. above, any work remedied pursuant to this clause shall also be subject to the provisions of this clause to the same extent as work originally performed.
- G. The rights and remedies of the Government provided in this clause are in addition to and do not limit any rights afforded to the Government by any other clause of this contract.

#### GC.20 ENVIRONMENTAL POLLUTION CONTROL

- A. The Contractor or its Subcontractors shall not dispose of any construction or other wastes (solid, liquid, or gaseous) in such a manner or in locations that will violate Federal, State, or Local Government Air and Water Pollution Control standards, rules, or regulations, or those at the site where work is being done.

- B. Fuels, oils, chemicals, and other materials used in connection with the contract will be stored, handled, and used in such a manner that their accidental release to the atmosphere or to surface or ground water will not violate Federal, State, or Local Government Air and Water Pollution standards, rules, or regulations or those at the site where work is being done.

#### GC.21 NOTIFICATION, INVESTIGATION, AND REPORTING OF ACCIDENTS

The Contractor will immediately notify the Construction Manager or his representative, of any injury-producing accident in which the injured is unable to return to work the next scheduled shift. He will also, upon request, participate in necessary investigations concerning accidents as determined by the U.S. Department of Energy. The Contractor will also submit to the Construction Manager, by the 10th of each month, a listing of the monthly average number of employees on the job and the number of man-hours expended for the previous month.

#### GC.22 SITE ACCESS REGULATIONS

##### General

Access to the construction site is subject to certain regulations described herein. Permission for access will be revoked for any and all persons who violate Site Access Regulations. All Contractor's personnel, operating forces, and persons not regularly assigned for work at the site shall be made aware of and shall comply at all times with the following regulations:

- A. All posted speed limits are enforced and must be observed.
- B. All signs and posted notices must be observed. They are for the safety of all personnel on the site.
- C. Without the approval of the Construction Manager, no objects will be picked up or removed from the limits of the site except the Contractor's construction materials, or materials removed in construction and designated by the specification to be removed from the site.
- D. All materials for installation shall be brought in and the work so conducted as to minimize interference with other activities of the Government and with other construction work on the site.
- E. Points of access to the work for vehicles and personnel will be as designated on the drawings applying to this contract.

GC.23 PARKING

A. Contractor's vehicles:

1. Parking of Contractor's vehicles will be permitted only in areas designated for parking. Vehicles shall not be parked within fifteen feet of any security fence.
2. Cranes, booms, drilling rigs, and similar tall equipment must be kept clear of overhead electrical conductors. The Contractor is responsible for any damage or injury caused by unsafe acts of his operators.

B. Personal Vehicles:

Parking of personal vehicles shall be within the established parking lot. Personal vehicles are not allowed in construction areas.

C. Use of Existing Roads

1. Only vehicles with pneumatic tires will be allowed on existing roads.
2. All motorized heavy equipment shall be equipped with mufflers.
3. Use of site roads for heavy traffic must be kept to a minimum.
4. Certain existing roads within the site will be designated for use by the Contractor during the execution of his work. Use of other roads shall not be allowed without prior permission.
5. Access to and traffic on the existing site roads must be maintained at all times. When obstruction in or alterations to the existing site roads are required because of construction, detours, or other temporary measures, they must be completed prior to the starting of work. The Contractor must have the approval of the Construction Manager prior to starting work.

GC.24 ACCESS BADGE REQUIREMENTS

A. Access Badges

1. Forty-eight hour notice shall be given to the Construction Manager at the site by the Contractor prior to his initial entry to the Site. At this time, the Contractor shall state the number of people, including Subcontractors' personnel, to be processed. This procedure will expedite Badge processing.

2. Sufficient badges will be furnished to the Contractor at no cost to him. Badges shall remain the property of the Government and the Contractor and his personnel must return the badges to the Badge Office upon termination of employment at the Site. While working within the limits of the Site, badges must be worn above the waist and in plain sight at all times. Personnel making normal truck deliveries for vendors will not be required to be processed, but will be issued a temporary truck pass.
3. Processing of Contractor personnel will be done without charge to the Contractor. The Contractor will not be reimbursed for the cost of "Lost time" required for the processing of his personnel.
4. Contractor's personnel will be limited to the construction Site within the Construction Limits. Personnel working on walks, paving utilities, piping, or similar outside projects are prohibited from entering any buildings within the area of the work, except when granted permission by the Construction Manager.

B. Prohibited Items

1. Except as otherwise provided herein, the following items shall not be brought within the limits of the Site:
  - a. Firearms, explosives, and incendiary devices and other weapons.
  - b. Narcotics and dangerous drugs, marijuana, LSD, and other hallucinatory substances.
  - c. Alcoholic beverages.
  - d. Poisonous or corrosive solids, liquids, or gases.
2. If any of the items listed are required by the Contractor for the execution of his work, he must receive written permission from the Construction Manager for each item brought into the Site. Those items permitted must be removed from the Site immediately upon the termination of their need or the termination of the period stated in the Contractor's request. All items listed above may be confiscated if they are brought into the Site without permission or if they are being used for other purposes than those stated in the request.

3. The Contractor's employees and vehicles driven by Contractor's employees may be subject to search at the discretion of the Construction Manager upon entering and leaving the Site. In addition, sub-contractors, sub-subcontractors, material persons and vendors entering and leaving the Site shall also be subject to search.

C. Working Hours

Construction operations shall be limited to the hours between 7:30 a.m. and 5:00 p.m., Mondays through Fridays, except holidays. A request must be made to the Construction Manager forty-eight (48) hours in advance for approval to work days or hours other than those stated above. Provision for emergency entry may be made during off-working hours through the Construction Manager.

D. Storage and Materials

No storage of materials, parking of vehicles or equipment, job offices or temporary storage building will be allowed within fifteen feet of any fences.

E. Fence Penetrations

The Contractor shall not make any penetration over, under, or through existing security fences located within, or on the perimeter of, the Site without the permission of the Construction Manager.

GC.25 JOB OFFICE, STORAGE, AND SHOP

A. Contractor's Construction Office

The Contractor may provide a construction office on the Site for his use. A telephone may be installed by the Contractor at his expense. Pay telephones are also available at the Site for use by the Contractor. Whether or not the Contractor elects to provide an office, a complete set of plans, specifications, and shop drawings shall be maintained at the Site.

B. Storage and Shop

During the construction period, the materials to be used in the work shall be kept in an orderly manner neatly stacked and/or piled. The Contractor shall provide all temporary storage and shop room that may be required at the Site for the safe and proper storage of tools, materials, etc.

C. Location and Removal

These facilities shall be constructed only in the locations approved by the Construction

Manager and must in no way interfere with the proper installation and completion of other work. These facilities shall remain the property of the Contractor, and shall be removed by the Contractor within three days after having been notified by the Construction Manager that such removal is necessary.

GC.26 TEMPORARY UTILITIES

A. Toilet Facilities

Toilet facilities will be furnished by the Construction Manager at the Construction Site.

B. Water Service

1. Non-potable water will be furnished by the Construction Manager at the Construction Site.

2. Drinking water will be furnished by the Construction Manager at the Construction Site

C. Electrical Service

480 volt three phase power will be available to the Contractor.

D. Solid Waste Disposal

The Construction Manager will provide and maintain metal Dumpsters for use by the Contractor without charge. The number of Dumpsters and their locations will be determined solely by the Construction Manager. No provision has been made for a Site Dump or "Bone Yard."

E. Conditions

1. The expense of connections of water and electricity from Site sources defined above shall be borne by the Contractor.

2. The Contractor shall exercise reasonable care to conserve water and power furnished by the Government.

3. The Government does not guarantee amounts available nor will the Government be responsible for interruption of service.

4. Temporary services installed by the Contractor shall be removed and utilities restored to their initial condition by the Contractor at the completion of the Site work.

GC.27 EMERGENCY REPAIRS

The Government reserves the right to make emergency repairs as required to keep equipment in

operation without voiding the Contractor's guarantee or relieving the Contractor of his responsibilities.

#### CC.28 MANUFACTURER'S WRITTEN INSTRUCTIONS

Where any materials are called for to be installed "according to manufacturer's written instructions", the Contractor shall furnish the Construction Manager with six (6) copies of such required instructions at least two (2) weeks prior to the installation of the material.

#### CC.29 TIME EXTENSION - WEATHER CONDITIONS

In accordance with the General Provisions No. 3 of the contract, time extensions will be considered for unusually severe weather conditions which actually delay the completion of the work. Examples of some types of unusually severe weather conditions are as follows:

- A. The number of calendar days having precipitation of 0.1 inch or more recorded by the U.S. Weather Bureau which exceed the eight-year normals reported by the U.S. Weather Bureau for the Larkston/Daggett area.
- B. Extreme muddy site conditions, unusually high winds, or unusual temperatures, etc., may be cause for time extension consideration.

The Contractor shall submit to the Contracting Officer the inclusive dates when unusually severe weather delayed progress and the definite number of days the work as a whole was affected. Official Weather Bureau reports showing departures from normal expectancy should accompany any claim of delay.

#### CC.30 PROGRESS MEETINGS

- A. Construction Progress meetings will be held weekly or more frequently as determined by the Construction Manager. Attendance by the Contractor for these meetings is required. The Contractor shall make all arrangements to have his own forces and his principal subcontractors represented at these meetings by individuals with authority to make commitments for and act for the concerns represented. The purpose of these meetings shall be primarily to:

1. Advise the Contractor of administrative matters and procedures in connection with the Contract, which will include, but not be limited to, contract administration, correspondence, payrolls, security, equal employment opportunity, inspection, and safety.

2. Discuss and resolve construction problems.

3. Review current and proposed work schedules and progress.

1. The Contractor shall assume full responsibility to act for and commit any subcontractor employed by the Contractor, whether such subcontractor is present or not at the meeting.

- C. Each principal representative at these weekly meetings shall be prepared to indicate the proposed work schedule for the period immediately following the meeting date and to indicate anticipated difficulties for resolution by the group as a whole.

#### CC.31 INSURANCE

##### A. Insurance

1. The Contractor and its subcontractors shall maintain and keep in full force and effect policies of insurance, as described below, during the life of the contract. Certificates of such insurance shall be provided to the Contracting Officer.

- (a) Comprehensive Personal Injury and Property Damage Liability Insurance including project liability, contractual liability and automobile liability with a combined single limit of not less than \$1,000,000 each occurrence. Such insurance shall (i) name the Associates (Southern California Edison, acting as principal in its own behalf and as agent and project director for the Department of Water and Power of the City of Los Angeles, California and for the State of California Energy Resources Conservation and Development Commission), Department of Energy and Townsend and Bottom, Inc. as additional insureds; (ii) be primary for all purposes; and (iii) contain standard cross-liability provisions.

#### CC.32. ARCHEOLOGICAL CONTROL

If additional evidence of archeological sites is encountered such construction activities as access road and regarding work in the immediate area of the find shall be halted and the DOE, through Construction Manager, will consult a qualified archeologist to assess the significance of the find and provide necessary documentation. Work will not resume until authorized by the DOE.

10 MWe SOLAR PILOT PLANT  
CONSTRUCTION SAFETY PROGRAM

Purpose

The Safety and Health of construction personnel is of prime importance. This program has been established to reduce to a minimum undesirable occurrences and conditions resulting in injury to employees and/or damage or loss to property.

Responsibility

As a Construction Contractor, you are required by Federal and State Occupational Safety and Health Regulations, Standards, Codes, Rules and Regulations to provide safe working conditions for all employees. You must also understand and implement all required safety orders pertaining to your operations.

Duties of Employer

1. Safety Orientation for Construction Contractor Safety Rep.

Each contractor's safety representative will meet with the Townsend and Bottum (T&B) Project Safety Director to review and agree on all aspects of this safety program. The meeting will be documented and signed by the representatives from each company present.

2. Employee Safety Orientation and Safety Meeting

Each contractor shall send their tradesmen to a basic safety orientation to be conducted by the T&B Project Safety Director.

3. Lost Time or Hospitalization Reports

All Construction Contractors must complete accident reports at the jobsite and submit to Project Safety Director.

In the event of a fatal accident, or an accident involving five or more employees, the Project Safety Director shall be notified immediately and explicit instructions will be given by the Project

Safety Director as to who should be notified and what actions should take place.

4. Medical Program

All DOE and SFCM Construction Contractors shall be responsible for establishment and maintenance of an approved First Aid Program during construction.

5. Fire Safety Program

A fire inspection is required on a monthly basis and shall be conducted by the Project Safety Director. While conducting inspection, fire extinguishers will be checked for charge, sealed and inspected. The Project Safety Director will make arrangements with local fire departments to assure proper fire protection.

6. Safety Inspections

The Project Safety Director shall conduct a weekly inspection of the entire site. A copy of this inspection will be sent to the DOE's office and one copy will be filed by T&B. Each contractor is responsible for correcting any violations and returning the punch list with date it was corrected to the Safety Department.

A. Third Party Inspection

In the event of an OSHA inspection, insurance inspection or DOE Safety inspection, the Project Safety Director shall be notified when knowledge of this exists and preferably prior to the start of the inspection. Contractors who have insurance representatives visit the job site will contact the CM prior to making any job site inspection. All inspections of these types shall be so noted in the contractor's daily log.

B. CAL/OSHA Inspection

If the CAL/OSHA Inspector arrives on the job site, be sure that he shows proper credentials prior to the start of the inspection. The Contractor Safety Representative and the Project Safety Director will accompany the OSHA Inspector during his inspection tour, and note all discrepancies that are observed. If possible, the CM should attend the final conference that the OSHA Inspector holds with the contractors, and obtain copies of all inspection forms or notices of violations that may be issued at that time. A complete report regarding the inspection should be submitted the following day to the Project Safety Director.

7. "Lock-Out" "Tag-Out" Procedure

A tagging procedure will be in effect and all contractors will abide by its rules and regulations.

8. Record Keeping

A. OSHA

All contractors are required by law to maintain OSHA forms 100, 102, & 200. At the end of the calendar year each contractor is required to post #102 in a conspicuous place during the month of February.

B. Lost Time Injury Report

In the event that a contractors' employee is injured on the job and loses time, a copy of the Worker's Compensation form must be submitted to the Project Safety Director within one week after injury.



C. DOE Liability Report

In the event an accident takes place involving the liability of DOE or another contractor, contact the Safety Department and complete an accident investigation report.

D. Hazardous Tasks

Certain construction operations (i.e. asbestos) require specific health and environmental tasks be performed. It is the responsibility of each contractor to have knowledge of these requirements and submit the data to the Project Safety Director.

9. DOE Safety Requirements

The DOE requires all contractors to perform their work in compliance with all Federal and State OSHA Safety Regulations.

10. Sanitation & Water & Solid Waste Facilities

The SFCM will provide and maintain all contractors with sanitation, water and solid waste services.

The Accident Prevention Program applies to all employees and contractors working under DOE and SFCM jurisdiction, and includes the prevention and control which may cause personal injury, damage or loss to property and equipment.

Safety is an everyday problem and requires constant day-to-day attention from each member of the construction force. Strict compliance with all is necessary to prevent accidents. THIS DIGEST DOES NOT TAKE THE PLACE OF OR ALLOW THE CONTRACTOR NOT TO ABIDE BY ALL FEDERAL, STATE OR LOCAL SAFETY CODES.

The responsibilities for safety and health are shared: by Employer, Supervisor, and Employees.

- The Construction Contractor is responsible for providing the safeguards required to ensure safe conditions.
- Supervisors are responsible for ensuring that all operations are performed with the utmost regard for safety and health of all personnel involved, including themselves.
- Employees are responsible for cooperation with all aspects of the safety and health program - including compliance with all rules and regulations - and for continuously practicing safety while performing their duties.

The division of safety regulations cover the more important items but in no way attempt to cover the entire field of construction safety. The absence of regulations covering a given situation should not be construed to indicate that no safeguards are needed.

1. Harmful Substances

Employees required to handle or use poisons, caustics, or other harmful substances shall be made aware of the potential hazards, personal hygiene, personal protective measures required, safe handling and use.

All employees required to enter into confined or enclosed spaces shall be instructed as to the nature of the hazards involved, the necessary precautions to be taken, and in the use of protective and emergency equipment required.

2. Refuse

During the course of construction, alteration, or repairs, form and scrap lumber with protruding nails, and all other debris, shall be kept cleared from work areas, passageways, and stairs, in and around buildings or other structures.

Containers shall be provided for the collection and separation of waste, trash, oily and used rags, and other refuse. Containers used for garbage and other oily, flammable, or hazardous wastes, such as caustics, acids, harmful dusts, etc., shall be equipped with covers. Garbage and other waste shall be disposed of at frequent and regular intervals.

3. Hearing Protection

Ear protection is required where noise registers more than 90 decibles. This condition could exist around brick saws, jack hammer work, pile driving and other such operations.

4. Ionizing Radiation

Any activity which involves the use of the radioactive materials or X-Rays, whether or not under license from the Atomic Energy Commission, shall be performed by competent persons specially trained in the proper and safe operation of such equipment. In the case of materials used

under Commission license, only persons actually licensed, or competent persons under direction and supervision of the licensee, shall perform such work.

5. Non-ionizing Radiation

Only qualified and trained employees shall be assigned to install, adjust, and operate laser equipment.

Proof of qualification of the laser equipment operator shall be available and in possession of the operator at all times.

Areas in which lasers are used shall be posted with standard laser warning placecards.

The laser beam shall not be directed at employees.

6. Head Protection

Head protective equipment (helmets) shall be worn in areas where there is a possible danger of head injuries from impact, flying or falling objects, or electrical shock and burns. ANSI Z 9.1-1969, and ANSI Z 89, 2-1971.

7. Hearing Protection

Wherever it is not feasible to reduce the noise levels or duration of exposure, ear protective devices shall be provided and used. Plain cotton is not an acceptable protective device.

8. Eye and Face Protection

Eye and face protection shall be provided when machines or operations present potential eye or face injury.

9. Respiratory Protection

In emergencies, or when feasible engineering or administrative controls are not effective in controlling toxic substances, appropriate respiratory equipment shall be provided by the employer and shall be used.

10. Safety Belts, Lifelined, and Lanyards

The employer is responsible for requiring the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions or where the need is indicated for using such equipment to reduce the hazard to the employees.

Lifelines, safety belts, and lanyards shall be used only for employee safeguarding.

11. Fire Protection

A fire fighting program is to be followed throughout all phases of the construction and demolition work involved. It shall provide for effective fire fighting equipment to be available without delay, and designed to effectively meet all fire hazards as they occur.

Fire fighting equipment shall be conspicuously located and readily accessible at all times, and be maintained in operating condition.

12. Fire Prevention

Smoking shall be prohibited at or in the vicinity of operations which constitute a fire hazard, and shall be conspicuously posted: "NO SMOKING OR OPEN FLAME". Temporary buildings, when located within another building or structure, shall be of either noncombustible construction having a fire resistance of not less than one hour.

Method of piling shall be solid wherever possible and in orderly and regular piles. No combustible material shall be stored outdoors within ten feet of a building or structure.

Storage of materials shall not obstruct exits. Materials shall be stored with due regard to their fire characteristics. Clearance of at least 36 inches shall be maintained between the top level of the storage material and the sprinkler deflectors. Clearance shall be maintained around lights and heating units to prevent ignition of combustible materials.

13. Flammable and Combustible Liquids

Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids.

At least one portable fire extinguisher having a rating of not less than 20-B units shall be located not less than 25 feet, nor more than 75 feet, from any flammable liquid storage area located outside.

Flammable or combustible liquids shall be drawn from or transferred into vessels, containers, or tanks within a building or outside only through a closed piping system.

The dispensing units shall be protected against collision damage.

Leakage or spillage of flammable or combustible liquids and shall be disposed of promptly and safely.

There shall be no smoking or open flames in the areas used for fueling, servicing fuel systems for internal combustion engines, receiving or dispensing of flammable or combustible liquids.

Conspicuous and legible signs prohibiting smoking shall be posted.

14. Temporary Heating Devices

Heaters used in the vicinity of combustible tarpaulines, canvas, or similar coverings shall be located at least ten feet from the coverings. The coverings shall be securely fastened to prevent ignition or upsetting of the heater due to wind action on the covering or other material.

Solid fuel salamanders are prohibited in buildings and on scaffolds.

15. Accident Prevention Signs and Tags

Accident prevention tags shall be used as a temporary means of warning employees of an existing hazard.

16. Storage and Handling

All materials stored in tiers shall be secured to prevent sliding, falling, or collapse. Aisles and passageways shall be kept clear.

Material stored inside buildings under construction shall not be placed within six feet of any hoistway or inside floor openings, nor within ten feet of an exterior wall which does not extend above the top of the material stored.

Lumber shall be stacked as to be stable and self-supporting.

17. Hand and Power Tools

All hand and power tools and similar equipment shall be maintained in a safe condition. Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly-wheels, chains, or other reciprocating, rotating, or moving parts of equipment shall be guarded, if such parts are exposed to contact by employees or otherwise create a hazard.

All hand-held powered tools shall have a positive "on-off" control.

18. Handtools

Employer shall not issue or permit the use of unsafe hand tools. Remove defective equipment from service.

Wrenches shall not be used when jaws are sprung to the point that slippage occurs. Impact tools shall be kept free of mushroomed heads. The wooden handles of tools shall be kept free of splinters or cracks and shall be kept tight in the tool.

Electric power operated tools shall either be approved double-insulated or be properly grounded.

19. Power-Operated Handtools

Pneumatic power tools shall be secured to the hose in a positive manner to prevent accidental disconnection. Safety clips or retainers shall be securely installed and maintained on pneumatic impact tools to prevent them being accidentally expelled. All hoses exceeding  $\frac{1}{2}$  inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.

All fuel powered tools shall be stopped while being refueled or serviced. Only employees who have been trained in the operation of the particular tool in use shall be allowed to operate a power-actuated tool. All tools shall be used with the correct shield, guard, or attachment recommended by the manufacturer.

20. Abrasive Wheels and Tools

Floor and bench-mounted grinders shall be provided with work rests which are rigidly supported and readily adjustable. Such work rests shall be kept at a distance not to exceed one-eighth inch from the surface of the wheel. All employees using abrasive wheels shall be protected by eye protection.

21. Woodworking Tools

All portable, power driven circular saws shall be equipped with guards above and below the base plate or shoe. The upper guard shall cover the saw to the depth of the teeth, except for the minimum arc required to permit the base to be tilted for bevel cuts. The lower guard shall cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work. When the tool is withdrawn from the work, the lower guard shall automatically and instantly return to the covering position.



22. Jacks

Jack capacity shall not be exceeded.

23. Gas Welding and Cutting

Valve protection caps shall be in place when compressed gas cylinders are transported, moved, or stored. Cylinder valves shall be closed when work is finished and when cylinders are empty or are moved. Compressed gas cylinders shall be secured in an upright position at all times, except when cylinders are actually being hoisted or carried.

Cylinders containing oxygen or acetylene or other fuel gas shall not be taken into confined spaces.

Fuel gas shall not be used from cylinders through torches or other devices which are equipped with shutoff valves without reducing the pressure through a suitable regulator attached to the cylinder valve or manifold. When not in use, manifold and heater hose connections shall be capped in relation to the fuel gas and oxygen manifolds.

Defective hose shall be removed from service. Boxes used for the storage of gas hose shall be ventilated. Hoses, cables, and other equipment shall be kept clear of passageways, ladders and stairs.

Torches in use shall be inspected at the beginning of each working shift for leaking shutoff valves, hose couplings, and tip connections. Defective torches shall not be used.

Oxygen shall not be directed at oily surfaces, greasy clothes or within a fuel oil or other storage tank or vessel.

#### 24. Arc Welding and Cutting

Whenever practicable, all arc welding and cutting operations shall be shielded by noncombustible or flameproof screens which will protect employees and other persons working in the vicinity from the direct rays of the arc.

When practical, objects to be welded, cut, or heated shall be moved to a designated safe location or, if the object to be welded, cut or heated cannot be removed, positive means shall be taken to confine the heat, sparks, and slag, and to protect the immovable fire hazards from them.

Suitable fire extinguishing equipment shall be immediately available in the work area and shall be maintained in a state of readiness for instant use.

#### 25. Ventilation and Protection in Welding and Cutting

Oxygen shall not be used for ventilation or cleaning the work area.

Employees performing any type of welding, cutting, or heating shall be protected by suitable eye protective equipment.

#### 26. Electrical

General Requirements - Controls that are to be deactivated during the course of work on energized or de-energized equipment or circuits shall be tagged.

Tags shall be placed to identify the equipment or circuits being worked on.

#### 27. Grounding and Bonding

The non-current-carrying metal parts of plug-connected or portable equipment shall be grounded. Extension cords used with portable electric tools and appliances shall be the 3-wire type.

28. Ladders

The use of ladders with broken or missing rungs or steps, broken or split side rails, or other faulty or defective construction is prohibited.

Portable ladder feet shall be placed on a substantial base, and the ladder shall be kept clear. Ladders shall not be used in a horizontal position as platforms, runways. Ladders shall not be placed in passageways, doorways, driveways, or any location where they may be displaced by activities being conducted on any other work, unless protected by barricades or guards.

Portable ladders in use shall be tied, blocked, or otherwise secured to prevent their being displaced. Portable metal ladders shall not be used for electrical work or where they may contact electrical conductors.

29. Scaffolding

Unstable objects such as barrels, boxes, loose brick, or concrete blocks, shall not be used to support scaffolds or planks. Scaffold planking shall be overlapped a minimum of 12 inches and secured from movement. Scaffold planks shall extend over their end supports not less than six inches nor more than 12 inches.

30. Floor, Guardrails, Handrails

Floor openings shall be guarded by a standard railing and toeboards or cover.

Every open-sided floor or platform, six feet or more above adjacent floor or ground-level, shall be guarded by a standard railing on all open sides except where there is entrance to a ramp, stairway, or fixed ladder.

A standard railing shall consist of top rail, intermediate rail and posts, and have a vertical height of approximately 42 inches from upper surface of top rail to the floor, platform, etc. A stair railing shall be not more than 34 inches nor less than 30 inches from upper surface of top rail to surface of tread in line with face of riser at forward edge of tread. A standard toeboard shall be at least four inches in height, and may be of any substantial material either solid or open, with openings not to exceed one inch in greatest dimension.

31. Stairways

Every flight of stairs having four or more risers shall be equipped with standard handrails.

Debris, and other loose materials, shall not be allowed on or under stairways.

Slippery conditions on stairways shall be eliminated as soon as possible after they occur.

32. Cranes and Derricks

The employer shall comply with the manufacturer's specifications and limitations. Rated load capacities, recommended operating speeds, and special hazard warnings or instructions shall be posted on all equipment and be visible from the operator's station. Equipment shall be inspected before each use and all deficiencies corrected before further use.

Conveyors shall be locked out or otherwise rendered in-operable, and tagged out with a "Do Not Operate" tag during repairs and when operation is hazardous to employees performing maintenance work.

33. Motor Vehicles

All vehicles shall have a service brake system, emergency brake system, and a parking brake system. All vehicles in use shall be checked at the beginning of each shift to assure that all parts, equipment, and accessories affecting safe operation are free from defects and in safe operating condition. No employer shall use any motor vehicle equipment having an obstructed view to the rear unless the vehicle has a reverse signal alarm audible above the surrounding noise level or the vehicle is backed up only when an observer signals that it is safe to do so.

34. Excavating and Trenching

Before opening any excavation, efforts shall be made to determine if there are underground utilities in the area.

The walls and faces of all excavations and trenches in which employees are exposed to danger from moving ground shall be guarded by a shoring system, sloping of the ground, or some other equivalent means.

In excavations which employees may be required to enter, excavated or other materials shall be effectively stored and retained at least two feet or more from the edge of the excavation. Trenches more than four feet deep shall have ladders or steps located so as to require no more than 25 feet of lateral travel.

REPORT OF FATALITY OR HOSPITALIZATION

Project Name \_\_\_\_\_ Location \_\_\_\_\_

Name of injured employee \_\_\_\_\_ Age \_\_\_\_\_ Badge No. \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

Occupation \_\_\_\_\_ Date of injury \_\_\_\_\_, 19\_\_ Time \_\_\_\_\_ A.M./P.M.

Description of injury(s) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ Estimated lost time \_\_\_\_\_ days

Describe in detail how accident happened \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Weather conditions at time of accident \_\_\_\_\_

Name of immediate supervisor \_\_\_\_\_

Witnesses to accident (names and addresses): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(continued)

First aid given in field: Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, describe \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

First aid given by \_\_\_\_\_

Employee in hospital \_\_\_\_\_. If yes, name and address of hospital \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_ Doctor (if known) \_\_\_\_\_

Was employee wearing proper safety gear at time of accident \_\_\_\_\_. If no, explain

\_\_\_\_\_  
Was equipment, tools or machinery involved \_\_\_\_\_. If yes, describe \_\_\_\_\_

\_\_\_\_\_ Were proper guards installed \_\_\_\_\_

Was insurance carrier notified immediately \_\_\_\_\_ Construction Manager \_\_\_\_\_

Owner \_\_\_\_\_ Next Of Kin \_\_\_\_\_

Death \_\_\_\_\_. If yes, date and time \_\_\_\_\_

(obtain and forward death certificate as soon as possible).

Note: Statement of witnesses; photographs; sketch of accident site, etc., should be included with this report. Forward this report to distribution below within 48 hours after accident.

Date of Report \_\_\_\_\_, 19\_\_\_\_

Signed By: \_\_\_\_\_  
Project Safety Director  
Or Representative

\_\_\_\_\_  
Immediate Supervisor  
For Injured

Distribution: Safety Dept.,  
Ann Arbor  
DOE

\_\_\_\_\_  
Construction Manager





10 MWe SOLAR PILOT PLANT

ACCIDENT INVESTIGATION

Investigation must be completed by Contractor and report must be submitted to Project Safety Director within 48 hours from the date of the accident.:

Date \_\_\_\_\_

1. Project No. \_\_\_\_\_ Closest City/Town \_\_\_\_\_

2. Injured employee's full name \_\_\_\_\_

Occupation \_\_\_\_\_ What was employee doing when injured?

\_\_\_\_\_

\_\_\_\_\_

3. Home address \_\_\_\_\_

4. Age \_\_\_\_\_ Social Security No. \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_  
Badge No. \_\_\_\_\_

5. Date of Injury \_\_\_\_\_ Time \_\_\_\_\_ (AM) or (PM)

On what date did injured begin to lose time? \_\_\_\_\_

Exact location where injury occurred (Station No. or prominent landmark) \_\_\_\_\_

\_\_\_\_\_

Was place of accident or exposure on employer's jobsite?

Yes \_\_\_\_\_ No \_\_\_\_\_

6. Describe apparent extent of injury \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. Attending Physician or Hospital \_\_\_\_\_

\_\_\_\_\_

8. How did accident happen? (Describe in detail) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

9. Names and addresses of witnesses to accident (include Badge No.):

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10. Cause of accident (What were the contributing causes or unusual circumstances involved?)

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---

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11. What unsafe act, practice or condition caused the accident?

---

---

---

12. Name of machine, tool, substance or subject most closely connected with accident:

---

---

---

13. How can a similar accident be prevented?

---

---

---

14. What action will be taken to correct the accident cause?

---

---

Signed \_\_\_\_\_  
(Person making report)

OBTAIN WITNESS STATEMENTS FOR SERIOUS AND FATAL INJURIES

NOTICE TO CONTRACTOR

FROM SFCM

To: \_\_\_\_\_

\_\_\_\_\_ (Date)

Attention: \_\_\_\_\_

From: \_\_\_\_\_

NOTIFICATION OF JOB SAFETY RULE VIOLATION - EMPLOYEE NOTICE

AND/OR THE SFCM

In the contract which you signed with the DOE <sup>AND/OR THE SFCM</sup> you agreed to abide by all State and Federal Construction Safety Regulations.

As general contractor, we feel obligated to inform you of serious or repeated job safety infractions with the understanding that you will correct such infractions and make every effort to prevent future occurrences.

On \_\_\_\_\_ your employee, \_\_\_\_\_

(Date)

(Name)

was observed by \_\_\_\_\_ violating the following safety

regulation: \_\_\_\_\_

\_\_\_\_\_. This is the \_\_\_\_\_ instance of a safety violation for the above employee which has been brought to your attention.

Thank you for your attention.

\_\_\_\_\_  
Construction Manager

Distribution:

- Contractor - 1
- Project Safety Dept. - 1

GUIDELINES FOR ACTION TO BE TAKEN IN CASE  
OF A FATALITY, SERIOUS ACCIDENT OR PROPERTY LOSS

1. Notify SFCM and Safety Director
2. Follow direction of above.
3. Townsend and Bottum, Inc. Project Manager notifies:
  - a. Owner
  - b. Insurance
4. Safety Director dispatched to scene to supervise and conduct accident investigation.
  - a. Photos
  - b. Witness statements
  - c. Complete
5. Safety Director notifies OSHA within 48 hours.

Exhibit II

EXHIBIT II

EXHIBIT I

Monthly Requisition  
Progress Payment Cost Breakdown

Page 1 of \_\_\_\_\_

Estimate No. \_\_\_\_\_

For: \_\_\_\_\_

From \_\_\_\_\_ To \_\_\_\_\_

By: \_\_\_\_\_

Project No. \_\_\_\_\_

Date Prepared \_\_\_\_\_

| Section No. | ITEM DESCRIPTION           | TOTAL CONTRACT AMOUNT | PREVIOUS BILLING |            | THIS BILLING |            | TOTAL TO DATE |            | REMAINING BALANCE |            |
|-------------|----------------------------|-----------------------|------------------|------------|--------------|------------|---------------|------------|-------------------|------------|
|             |                            |                       | X                | 1          | X            | 1          | X             | 1          | X                 | 1          |
| 1.          | FOUNDATION & EXTERIOR WORK |                       | XXXXXXX          | XXXXXXXXXX | XXXXXXX      | XXXXXXXXXX | XXXXXXX       | XXXXXXXXXX | XXXXXXX           | XXXXXXXXXX |
|             | a.                         |                       |                  |            |              |            |               |            |                   |            |
|             | b.                         |                       |                  |            |              |            |               |            |                   |            |
|             | c.                         |                       |                  |            |              |            |               |            |                   |            |
|             | d.                         |                       |                  |            |              |            |               |            |                   |            |
|             | e.                         |                       |                  |            |              |            |               |            |                   |            |
|             | f.                         |                       |                  |            |              |            |               |            |                   |            |
|             | g.                         |                       |                  |            |              |            |               |            |                   |            |
|             | h.                         |                       |                  |            |              |            |               |            |                   |            |
|             | i.                         |                       |                  |            |              |            |               |            |                   |            |
|             | j.                         |                       |                  |            |              |            |               |            |                   |            |
|             | k.                         |                       |                  |            |              |            |               |            |                   |            |
|             | l.                         |                       |                  |            |              |            |               |            |                   |            |
|             | m.                         |                       |                  |            |              |            |               |            |                   |            |
| 2.          | CONCRETE SUPERSTRUCTURE    | XXXXXXXXXX            | XXXXXXX          | XXXXXXXXXX | XXXXXXX      | XXXXXXXXXX | XXXXXXX       | XXXXXXXXXX | XXXXXXX           | XXXXXXXXXX |
|             |                            |                       |                  |            |              |            |               |            |                   |            |
|             |                            |                       |                  |            |              |            |               |            |                   |            |
|             |                            |                       |                  |            |              |            |               |            |                   |            |
|             | TOTAL THIS PAGE            |                       |                  |            |              |            |               |            |                   |            |

GC-27

LAWRENCE LIVERMORE LABORATORY (contract Title)

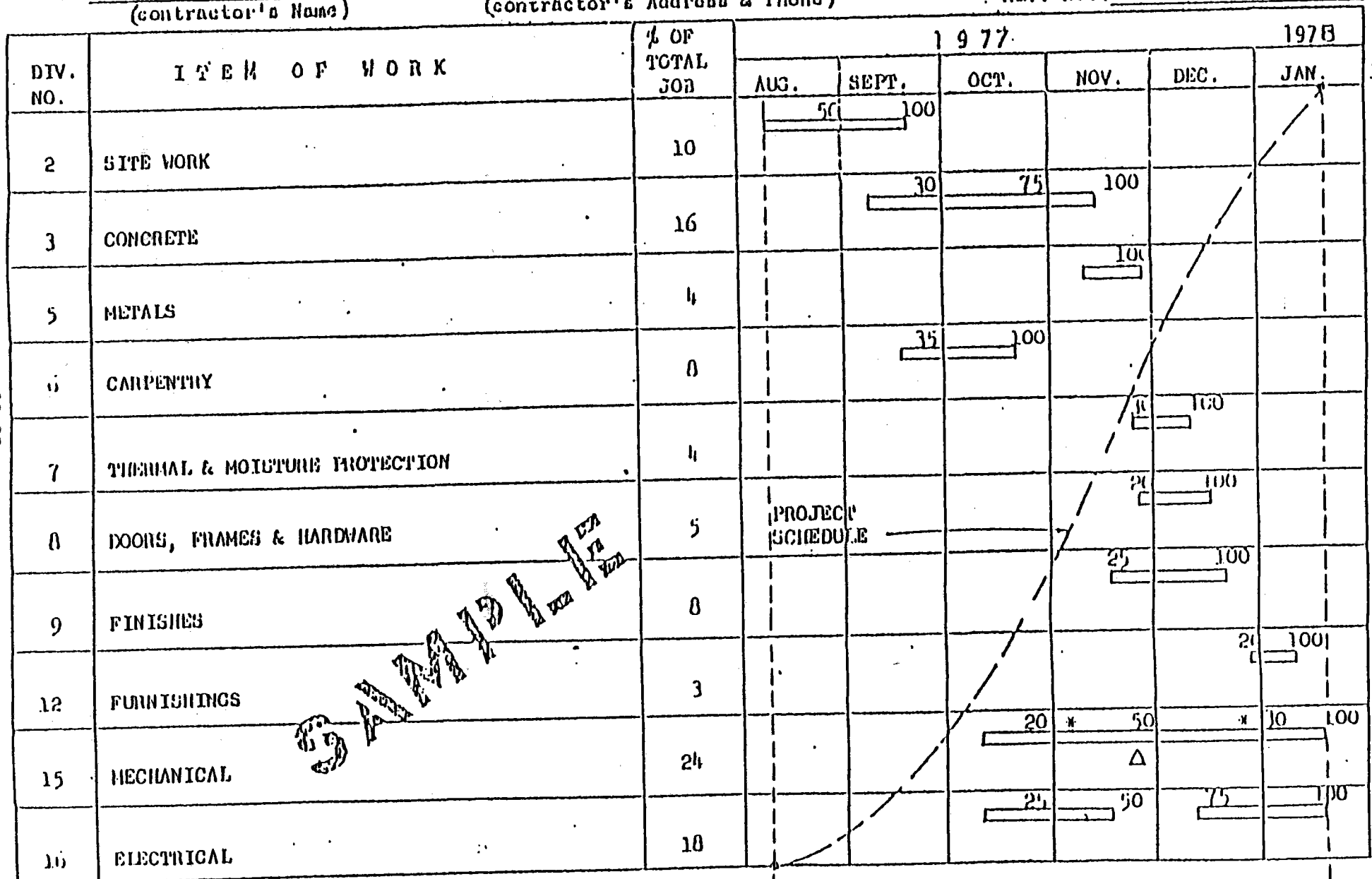
EXHIBIT III

(contractor's Name)

(contractor's Address & Phone)

DATE:

REV. NO.:



CS-73

**SAMPLE**

PROJECT SCHEDULE

LEGEND:

- \* Utility Tie-In
- △ University Equipment Required at Site

NOTICE TO PROCEED DATE

120 CALENDAR DAYS

DATE

COMPLETION DATE

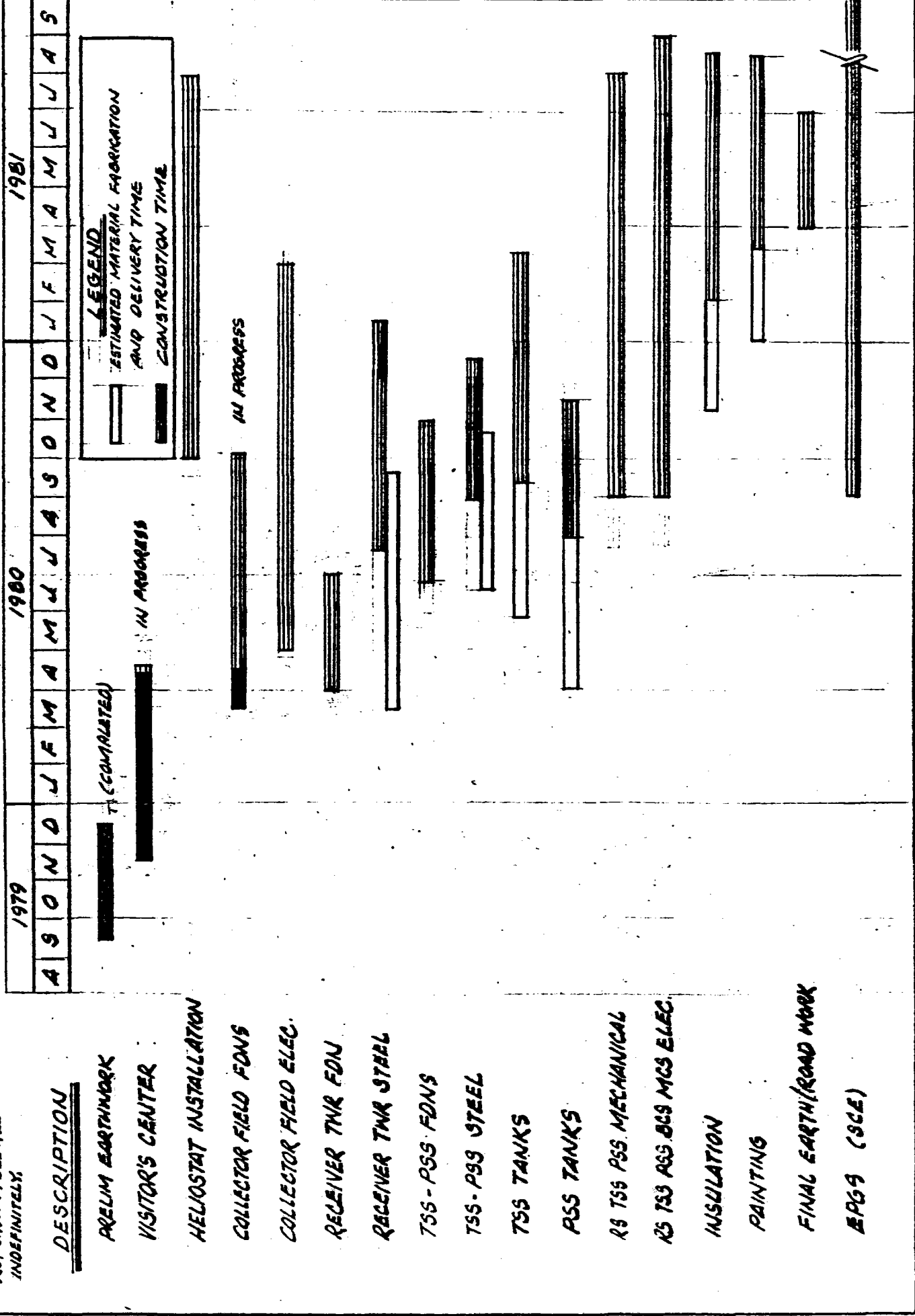
(To be filled in)



**EXHIBIT V**

TOWNSEND & BOTTUM, INC.  
4-11-80  
ANNING

**10 MW SOLAR PILOT PLANT  
CONSTRUCTION SCHEDULE**



NOTE: WAREHOUSE  
NOT SHOWN'S DELAYED  
INDEFINITELY

**DESCRIPTION**

- PRELIM EARTHWORK
- VISITOR'S CENTER
- HELIOSTAT INSTALLATION
- COLLECTOR FIELD FDN'S
- COLLECTOR FIELD ELEC.
- RECEIVER TWR FDN
- RECEIVER TWR STEEL
- TSS - PSS FDN'S
- TSS - PSS STEEL
- TSS TANKS
- PSS TANKS
- RS TSS PSS MECHANICAL
- RS TSS PSS BCS MCS ELEC.
- INSULATION
- PAINTING
- FINAL EARTH/ROAD WORK
- EPG9 (SCE)

**LEGEND**  
 [White Bar] ESTIMATED MATERIAL FABRICATION AND DELIVERY TIME  
 [Black Bar] CONSTRUCTION TIME

(COMPLETED)

IN PROGRESS

IN PROGRESS



CONTRACTOR'S SCHEDULE MILESTONES

The contractor is hereby notified that his performance time for completing the work under this contract is 140 calendar days after receipt of Notice to Proceed (NTP).

In addition, the contractor shall so sequence his work to complete the components of the work in accordance with the following schedule:

|   |                           |
|---|---------------------------|
| Raw Service Water & Demineralized Water<br>Tank Foundations | - NTP + 29 Calendar Days  |
| Pipe Rack Foundation & Misc. Trenches                       | - NTP + 78 Calendar Days  |
| TSU Tank & Fluid Make-up Tank Foundations                   | - NTP + 107 Calendar Days |
| Building Foundations  | - NTP + 128 Calendar Days |
| TSS Equipment Skid Foundations                              | - NTP + 140 Calendar Days |
| Miscellaneous Slabs   | - NTP + 140 Calendar Days |

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

|  |                              |  |                                |
|--|------------------------------|--|--------------------------------|
| 1. AMENDMENT/MODIFICATION NO.<br>Amendment No. 1   | 2. EFFECTIVE DATE<br>4-24-80 | 3. REQUISITION/PURCHASE REQUEST NO.        | 4. PROJECT NO. (If applicable) |
| 5. ISSUED BY<br>Townsend and Bottum, Inc.<br>Field Construction Office<br>P.O. Box 366<br>Daggett, CA. 92327 |                              | 6. ADMINISTERED BY (If other than block 5) |                                |

|  |      |               |  |
|--|------|---------------|--|
| 7. CONTRACTOR NAME AND ADDRESS<br>ALL PLANHOLDERS<br>(Street, city, county, state, and ZIP Code) | CODE | FACILITY CODE | 8. AMENDMENT OF SOLICITATION NO. TB-FB-96-80-JC50005,<br>DATED 4-16-80 (See block 9)<br>MODIFICATION OF CONTRACT/ORDER NO.<br>DATED (See block 11) |
|--|------|---------------|--|

9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS  
 The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers  is extended,  is not extended.  
 Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:  
 (a) By signing and returning \_\_\_\_\_ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. ACCOUNTING AND APPROPRIATION DATA (If required)

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS  
 (a)  This Change Order is issued pursuant to \_\_\_\_\_  
 The Changes set forth in block 12 are made to the above numbered contract/order.  
 The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation, etc.)  
 (c)  This Supplemental Agreement is entered into pursuant to authority of \_\_\_\_\_  
 It modifies the above numbered contract as set forth in block 12.

**RECEIVED**  
 APR 28 1980  
 TOWNSEND & BOTTUM INC.

12. DESCRIPTION OF AMENDMENT/MODIFICATION  
 Amendment No. 1 to solicitation No. TB-FB-96-80-JC50005 is intended to correct and clarify possible discrepancies in the bid documents due to printing errors. All planholders should verify that their copy of the IFB is in accordance with Amendment No. 1 as follows:  
 1). Section I, Representations and Certifications, Standard Form 19-B. Remove and dispose of all material appearing between pages 2 and 5 of the aforementioned. Replace with pages 3 and 4 only.  
 2). Section I, Labor Standards Provisions (Davis-Bacon Act) replace Standard Form 19-A.  
 3). Section I, Dept. of Labor Wage Determination Decision CA 78-5123 dtd. 8/18/78 and Modifications Nos. 1,2,3,4,5,6,7,8 and 9 thereto. Specifically reference Dept. of Labor Wage Determination Decisions dtd. 3/7/80. Should pages 15003 and 15004 of this document fail to appear, insert same.  
 4). Section II, Instructions to Bidders, insert cover sheet if missing from your document.  
 5). Section II, Instructions to Bidders, Standard Form 22, insert pages 1 and 2.

Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.

|  |   |
|--|---|
| 13. <input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT <input type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN _____ COPIES TO ISSUING OFFICE |   |
| 14. NAME OF CONTRACTOR/OFFEROR<br>BY _____<br>(Signature of person authorized to sign)   | 17. Townsend and Bottum, Inc.<br>BY <u>Robert J. Frendt</u><br>(Signature of Contracting Officer) |
| 15. NAME AND TITLE OF SIGNER (Type or print)   | 16. DATE SIGNED   |
| 18. NAME OF CONTRACTING OFFICER (Type or print)<br>Robert J. Frendt  | 19. DATE SIGNED<br>4/24/80  |

The following alterations in or additions to the representations and certifications of Standard Form 19B are hereby made:

1. Representation and Certification 1 entitled "Small Business" is deleted in its entirety and the following substituted therefor:

"1. SMALL AND SMALL DISADVANTAGED BUSINESS CERTIFICATION

- (a) The bidder ( ) contractor ( ) certifies that he is ( ) is not ( ) a small business concern as defined in accordance with Section 3 of the Small Business Act (15 U.S.C. 632). (For additional information see governing regulations of the Small Business Administration (13 CFR Part 12), 41 CFR 1-1.7 and the small business size standard set forth in the solicitation, if any);
- (b) The bidder ( ) contractor ( ) certifies that he is a small business (as set forth in (a) above) and is ( ) is not ( ) owned and controlled by socially and economically disadvantaged individuals. Such a firm is defined as one -
  - (i) which is at least 51 per centum owned by one or more such individuals or, in the case of publicly owned business, at least 51 per centum of the stock is owned by such individuals,
  - (ii) whose management and daily business operations are controlled by one or more such individuals, and
  - (iii) which certifies concerning said ownership and control in accordance with section (c) below.
- (c) The bidder ( ) contractor ( ) certifies that he is ( ) is not ( ) a minority individual(s) in accordance with (c)(i) below or that he is ( ) is not ( ) socially and economically disadvantaged in accord with section (c)(ii) or (c)(iii). Socially and economically disadvantaged individuals are defined as:
  - (i) United States citizens who are Black Americans, Hispanic Americans, Native Americans, or other specified minorities;

- (ii) any other individual found to be disadvantaged pursuant to section 8(a) of the Small Business Act (15 U.S.C. 637); or
- (iii) any other individual defined as socially, and economically disadvantaged, for purposes relating to other sections of the Small Business Act.

No solicitation may be properly considered without this consideration and no award may be made without it being executed."

2. Representation and Certification 2 entitled "Minority Business Enterprise" is deleted in its entirety and the following substituted therefor:

"2. Subcontracting Representation

- (a) The bidder ( ) contractor ( ) represents that the following conditions prevail which determine whether the firm shall be required to submit a subcontracting plan for small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals:
  - (i) he is ( ) a small business as defined in accordance with Section 3 of the Small Business Act (15 U.S.C. 632). (For additional information see governing regulations of the Small Business Administration (13 CFR Part 121), 41 CFR 1-1.7 and the small business size standard set forth in the solicitation, if any);
  - (ii) subcontracting possibilities are not ( ) offered with respect to this contract;
  - (iii) the contract, including all subcontracts thereunder, will be performed entirely outside of the United States, its territories and possessions, the District of Columbia and the Commonwealth of Puerto Rico and is therefore not covered ( );
  - (iv) the contract, including all prior modifications and/or extensions of which this award is a part and all projected future actions, shall not ( ) exceed \$1,000,000 (if solely for construction of a public facility) or \$500,000 otherwise; and

APR 01 1979

## LABOR STANDARDS PROVISIONS

### APPLICABLE TO CONTRACTS IN EXCESS OF \$2,000

#### 1. DAVIS-BACON ACT (40 U.S.C. 276a-276a-7)

(a) All mechanics and laborers, including apprentices and trainees, employed or working directly upon the site of the work shall 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 the Copeland Regulations, 29 CFR Part 3), the full amounts due at time of payment computed at wage rates not less than the aggregate of the basic hourly rates and the rates of payments, contributions, or costs for any fringe benefits contained in the wage determination decision 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 or subcontractor and such laborers and mechanics. A copy of such wage determination decision shall be kept posted by the Contractor at the site of the work in a prominent place where it can be easily seen by the workers.

(b) The Contractor may discharge his obligation under this clause to workers in any classification for which the wage determination decision contains:

(1) Only a basic hourly rate of pay, by making payment at not less than such basic hourly rate, except as otherwise provided in the Copeland Regulations (29 CFR Part 3); or

(2) Both a basic hourly rate of pay and fringe benefits payments, by making payment in cash, by irrevocably making contributions pursuant to a fund, plan, or program for, and/or by assuming an enforceable commitment to bear the cost of, bona fide fringe benefits contemplated by the Davis-Bacon Act, or by any combination thereof. Contributions made, or costs assumed, on other than a weekly basis shall be considered as having been constructively made or assumed during a weekly period to the extent that they apply to such period. Where a fringe benefit is expressed in a wage determination in any manner other than as an hourly rate and the Contractor pays a cash equivalent or provides an alternative fringe benefit, he shall furnish information with his payrolls showing how he determined that the cost incurred to make the cash payment or to provide the alternative fringe benefit is equal to the cost of the wage determination fringe benefit. In any case where the Contractor provides a fringe benefit different from any contained in the wage determination, he shall similarly show how he arrived at the hourly rate shown therefor. In the event of disagreement between or among the interested parties as to an equivalent of any fringe benefit, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination.

(c) The assumption of an enforceable commitment to bear the cost of fringe benefits, or the provision of any fringe benefits not expressly listed in section 1(b)(2) of the Davis-Bacon Act or in the wage determination decision forming a part of the contract, may be considered as payment of wages only with the approval of the Secretary of Labor pursuant to a written request by the Contractor. The Secretary of Labor may require the Contractor to set aside assets, in a separate account, to meet his obligations under any unfunded plan or program.

(d) The Contracting Officer shall require that any class of laborers or mechanics, including apprentices and trainees, which is not listed in the wage determination decision and which is to be employed under the contract shall be classified or reclassified conformably to the wage determination decision, and shall report the action taken to the Secretary of Labor. If the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers or mechanics to be used, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination. Apprentices and trainees may be added under this clause only where they are employed pursuant to an apprenticeship or trainee program meeting the requirements of the Apprentices and Trainees clause below.

(e) In the event it is found by the Contracting Officer that any laborer or mechanic, including apprentices and trainees, employed by the Contractor or any subcontractor directly on the site of the work covered by this contract has been or is being paid at a rate of wages less than the rate of wages required by paragraph (a) of this clause, the Contracting Officer may (1) by written notice to the Government Prime Contractor terminate his right to proceed with the work, or such part of the work as to which there has been a failure to pay said required wages, and (2) prosecute the work to completion by contract or otherwise, whereupon such Contractor and Subcontractor and his sureties shall be liable to the Government for any excess costs occasioned the Government thereby.

(f) Paragraphs (a) through (e) of the clause shall apply to this contract to the extent that it is (1) a prime contract with the Government subject to the Davis-Bacon Act, or (2) a subcontract also subject to the Davis-Bacon Act under such prime contract.

#### 2. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT—OVERTIME COMPENSATION (40 U.S.C. 327-333)

*This contract is subject to the Contract Work Hours and Safety Standards Act and to the applicable rules, regulations, and interpretations of the Secretary of Labor.*

(a) The Contractor shall not require or permit any laborer or mechanic, including apprentices, trainees, watchmen, and guards, in any workweek in which he is employed on any work under this contract to work in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek on work subject to the provisions of the Contract Work Hours and Safety Standards Act unless such laborer or mechanic, including apprentices, trainees, watchmen, and guards, receives compensation at a rate not less than 1½ times his basic rate of pay for all such hours worked in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek, whichever is the greater number of overtime hours. The "basic rate of pay," as used in this clause, shall be the amount paid per hour exclusive of the Contractor's contribution or cost for fringe benefits, and any cash payment made in lieu of providing fringe benefits, or the basic hourly rate contained in the wage determination, whichever is greater.

(b) In the event of any violation of the provisions of paragraph (a), the Contractor shall be liable to any affected employee for any amounts due, and to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including an apprentice, trainee, watchman, or guard, employed in violation of the provisions of paragraph (a) in the sum of \$10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of 8 hours or in excess of the standard workweek of 40 hours without payment of the overtime wages required by paragraph (a).

#### 3. APPRENTICES AND TRAINEES

(a) Apprentices shall be permitted to work as such only when they are registered, individually, under a bona fide apprenticeship program registered with a State apprenticeship agency which is recognized by the Bureau of Apprenticeship and Training, U.S. Department of Labor; or if no such recognized agency exists in a State, under a program registered with the aforesaid Bureau of Apprenticeship and Training. The allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio permitted to the Contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate who is not a trainee as defined in paragraph (b) of this clause, and who is not registered as above, shall be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The Contractor shall furnish to the Contracting Officer written evidence of the registration of his program and apprentices, as well as of the appropriate ratios allowed and the wage rates required to be paid thereunder for the area of construction, prior to using any apprentices in the contract work. The term "apprentice" means (1) a person employed and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or (2) a person in his 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 Council (where appropriate) to be eligible for probationary employment as an apprentice.

(b) Trainees shall be permitted to work as such when they are bona fide trainees employed pursuant to a program approved by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training. The term "trainee" means a person receiving on-the-job training in a construction occupation under a program which is approved (but not necessarily sponsored) by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training, and which is reviewed from time to time by the Manpower Administration to insure that the training meets adequate standards.

(c) In connection with contracts in excess of \$10,000, the Contractor agrees as follows:

(1) The Contractor shall make a diligent effort to hire for performance of work under this contract a number of apprentices or trainees, or both, in each occupation, which bears to the average number of the journeymen in that occupation to be employed in the performance of the contract the applicable ratio as set forth in paragraph (c)(7) of this clause.

(2) The Contractor shall insure that 25 percent of such apprentices or trainees in each occupation are in their first year of training, where feasible. Feasibility here involves a consideration of (i) the availability of training opportunities for first year apprentices, (ii) the hazardous nature of the work for beginning workers, and (iii) excessive unemployment of apprentices in their second and subsequent years of training.

(3) The Contractor shall, during the performance of the contract, to the greatest extent possible, employ the number of apprentices or trainees necessary to meet currently the requirements of paragraph (c)(1) and (c)(2) of this clause.

(4) The Contractor shall maintain records of employment on this contract by trade of the number of apprentices and trainees, apprentices and trainees in first year of training, and of journeymen, and wages paid and hours of work of such apprentices, trainees, and journeymen. In addition, the Contractor who claims compliance based on the criterion set forth in paragraph (c)(6)(iii) of this clause shall maintain such records of employment on all his construction work in the same labor market area, both public and private, during the performance of this contract. In each of the above cases the Contractor shall make such records available for inspection upon request of the Department of Labor or the Contracting Officer.

(5) The Contractor shall supply one copy of each of the written notices required in accordance with paragraph (c)(6)(iii) of this clause at the request of the Contracting Officer. The Contractor also agrees to supply at 3-month intervals during the performance of the contract and after completion of contract performance a statement describing steps taken toward making a diligent effort and containing a breakdown by craft, of hours worked and wages paid for first year apprentices and trainees, other apprentices and trainees, and journeymen. One copy of the statement will be sent to the Contracting Officer and one copy to the Secretary of Labor.

(6) The Contractor will be deemed to have made a "diligent effort" as required by paragraph (c)(1) if during the performance of this contract, he accomplishes at least one of the following three objectives: (i) The Contractor employs under this contract a number of apprentices and trainees by craft, at least equal to the ratios established in accordance with paragraph (c)(7) of this clause, or (ii) the Contractor employs, on all his construction work, both public and private, in the same labor

market area, an average number of apprentices and trainees by craft at least equal to the ratios established in accordance with paragraph (c)(7) of this clause, or (iii) the Contractor (A) if covered by a collective bargaining agreement, before commencement of any work on the project, has given written notice to all joint apprenticeship committees, the local U.S. Employment Security Office, local chapter of the Urban League, Workers Defense League, or other local organizations concerned with minority employment, and the Bureau of Apprenticeship and Training Representative, U.S. Department of Labor, for the locality of the work; (B) if not covered by a collective bargaining agreement, has given written notice to all of the groups stated above, except joint apprenticeship committees, and will in addition notify all non-joint apprenticeship sponsors in the labor market area; (C) has employed all qualified applicants referred to him through normal channels (such as the Employment Service, the Joint Apprenticeship Committees and where applicable, minority organizations and apprentice outreach programs who have been delegated this function) at least up to the number of such apprentices and trainees required by paragraph (c)(7) of this clause. The notice, as referred to herein, will include at least the Contractor's name and address, the agency designation, the contract number, job site address, value of the contract, expected starting and completion dates, the estimated average number of employees in each occupation to be employed over the duration of the contract work, and a statement of his willingness to employ a number of apprentices and trainees at least equal to the ratios established in accordance with paragraph (c)(7) of this clause.

(7) The Contractor recognizes that the Secretary of Labor has determined that the applicable ratios of apprentices and trainees to journeymen in any occupation for the purpose of this clause shall be as follows: (i) In any occupation the applicable ratio of apprentices and trainees to journeymen shall be equal to the predominant ratio for the occupation in the area where the construction is being undertaken, set forth in collective bargaining agreements, or other employment agreements, and available through the Bureau of Apprenticeship and Training Representative, U.S. Department of Labor, for the applicable area; (ii) for any occupation for which no ratio is found, the ratio of apprentices and trainees to journeymen shall be determined by the Contractor in accordance with the recommendations set forth in the Standards of the National Joint Apprenticeship Committee for the occupation, which are on file at offices of the U.S. Department of Labor's Bureau of Apprenticeship and Training; and (iii) for any occupation for which no such recommendations are found, the ratio of apprentices and trainees to journeymen shall be at least one apprentice or trainee for every five journeymen.

#### 4. PAYROLLS AND BASIC RECORDS

(a) The Contractor shall maintain payrolls and basic records relating thereto during the course of the work and shall preserve them for a period of 3 years thereafter for all laborers and mechanics, including apprentices, trainees, watchmen, and guards working at the site of the work. Such records shall contain the name and address of each such employee, his correct classification, rate of pay (including rates of contributions for, or costs assumed to provide, fringe benefits), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Contractor has obtained approval from the Secretary of Labor as provided in paragraph (c) the clause entitled "Davis-Bacon Act," he shall maintain records which show the commitment, its approval, written communication of the plan or program to the laborers or mechanics affected, and the costs anticipated or incurred under the plan or program.

(b) The Contractor shall submit weekly a copy of all payrolls to the Contracting Officer. The Government Prime Contractor shall be responsible for the submission of copies of payrolls of all subcontractors. The copy shall be accompanied by a statement signed by the Contractor indicating that the payrolls are correct and complete, that the wage rates contained

therein are not less than those determined by the Secretary of Labor, and that the classifications set forth for each laborer or mechanic, including apprentices and trainees, conform with the work he performed. Submission of the "Weekly Statement of Compliance" required under this contract and the Copeland Regulations of the Secretary of Labor (29 CFR Part 3) shall satisfy the requirement for submission of the above statement. The Contractor shall submit also a copy of any approval by the Secretary of Labor with respect to fringe benefits which is required by paragraph (c) of the clause entitled "Davis-Bacon Act."

(c) The Contractor shall make the records required under this clause available for inspection by authorized representatives of the Contracting Officer and the Department of Labor, and shall permit such representatives to interview employees during working hours on the job.

#### 5. COMPLIANCE WITH COPELAND REGULATIONS

The Contractor shall comply with the Copeland Regulations of the Secretary of Labor (29 CFR Part 3) which are incorporated herein by reference.

#### 6. WITHHOLDING OF FUNDS

(a) The Contracting Officer may withhold or cause to be withheld from the Government Prime Contractor so much of the accrued payments or advances as may be considered necessary (1) to pay laborers and mechanics, including apprentices, trainees, watchmen, and guards employed by the Contractor or any subcontractor on the work the full amount of wages required by the contract, and (2) to satisfy any liability of any Contractor and Subcontractor for liquidated damages under paragraph (b) of the clause entitled "Contract Work Hours and Safety Standards Act—Overtime Compensation."

(b) If any Contractor or subcontractor fails to pay any laborer, mechanic, apprentice, trainee, watchman, or guard employed or working on the site of work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Government Prime Contractor, take such action as may be necessary to cause suspension of any further payments or advances until such violations have ceased.

#### 7. SUBCONTRACTS

The Contractor agrees to insert the clauses hereof entitled "Davis-Bacon Act," "Contract Work Hours and Safety Standards Act—Overtime Compensation," "Apprentices and Trainees," "Payrolls and Basic Records," "Compliance with Copeland Regulations," "Withholding of Funds," "Subcontracts," and "Contract Termination—Debarment" in all subcontracts. The term "Contractor" as used in such clauses in any subcontract shall be deemed to refer to the subcontractor except in the phrase "Government Prime Contractor."

#### 8. CONTRACT TERMINATION—DEBARMENT

A breach of the clauses hereof entitled "Davis-Bacon Act," "Contract Work Hours and Safety Standards Act—Overtime Compensation," "Apprentices and Trainees," "Payrolls and Basic Records," "Compliance with Copeland Regulations," "Withholding of Funds," and "Subcontracts" may be grounds for termination of the contract, and for debarment as provided in 29 CFR 5.6.

#### 9. DISPUTES CONCERNING LABOR STANDARDS

Disputes arising out of the labor standards provisions of this contract shall be subject to the Disputes clause except to the extent such disputes involve the meaning of classifications or wage rates contained in the wage determination decision of the Secretary of Labor or the applicability of the labor provisions of this contract which questions shall be referred to the Secretary of Labor in accordance with the procedures of the Department of Labor.

DECISION NO. A279-5100 (Cont'd)

|                             | Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|-----------------------------|--------------------|--------------------------|----------|----------|----------------------------|
|                             |                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| Swing Stage, under 40 ft.:  |                    |                          |          |          |                            |
| Brush                       | \$10.59            | .77                      | .45      | .08      |                            |
| Spray                       | 11.09              | .77                      | .45      | .08      |                            |
| Swing Stage, over 40 ft.:   |                    |                          |          |          |                            |
| Brush                       | 11.04              | .77                      | .45      | .08      |                            |
| Spray                       | 11.54              | .77                      | .45      | .08      |                            |
| Structural Steel and Tanks: |                    |                          |          |          |                            |
| Brush                       | 11.29              | .77                      | .45      | .08      |                            |
| Spray & Sandblasters        | 11.79              | .77                      | .45      | .08      |                            |
| Zone B:                     |                    |                          |          |          |                            |
| Brush                       | 11.04              | .77                      | .45      | .08      |                            |
| Spray and Sandblasters      | 11.54              | .77                      | .45      | .08      |                            |
| Paperhangers                | 11.18              | .77                      | .45      | .08      |                            |
| Swing Stage, under 40 ft.:  |                    |                          |          |          |                            |
| Brush                       | 11.34              | .77                      | .45      | .08      |                            |
| Spray                       | 11.84              | .77                      | .45      | .08      |                            |
| Swing Stage, over 40 ft.:   |                    |                          |          |          |                            |
| Brush                       | 11.79              | .77                      | .45      | .08      |                            |
| Spray                       | 12.29              | .77                      | .45      | .08      |                            |
| Structural Steel and Tanks: |                    |                          |          |          |                            |
| Brush                       | 12.04              | .77                      | .45      | .08      |                            |
| Spray & Sandblasters        | 12.54              | .77                      | .45      | .08      |                            |
| Zone C:                     |                    |                          |          |          |                            |
| Brush                       | 11.79              | .77                      | .45      | .08      |                            |
| Spray                       | 12.29              | .77                      | .45      | .08      |                            |
| Paperhangers                | 11.93              | .77                      | .45      | .08      |                            |
| Swing Stage, under 40 ft.:  |                    |                          |          |          |                            |
| Brush                       | 12.09              | .77                      | .45      | .08      |                            |
| Spray                       | 12.59              | .77                      | .45      | .08      |                            |
| Swing Stage, over 40 ft.:   |                    |                          |          |          |                            |
| Brush                       | 12.54              | .77                      | .45      | .08      |                            |
| Spray                       | 13.04              | .77                      | .45      | .08      |                            |
| Structural Steel and Tanks: |                    |                          |          |          |                            |
| Brush                       | 12.79              | .77                      | .45      | .08      |                            |
| Spray & Sandblasters        | 13.29              | .77                      | .45      | .08      |                            |

DECISION NO. A279-5100 (Cont'd)

|  | Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|--|--------------------|--------------------------|----------|----------|----------------------------|
|  |                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| Zone D:  |                    |                          |          |          |                            |
| Brush  | \$12.29            | .77                      | .45      | .08      |                            |
| Spray  | 12.79              | .77                      | .45      | .08      |                            |
| Paperhangers   | 12.43              | .77                      | .45      | .08      |                            |
| Swing Stage, under 40 ft.:   |                    |                          |          |          |                            |
| Brush  | 12.59              | .77                      | .45      | .08      |                            |
| Spray  | 13.09              | .77                      | .45      | .08      |                            |
| Swing Stage, over 40 ft.:  |                    |                          |          |          |                            |
| Brush  | 13.04              | .77                      | .45      | .08      |                            |
| Spray  | 13.54              | .77                      | .45      | .08      |                            |
| Structural Steel and Tanks:  |                    |                          |          |          |                            |
| Brush  | 13.29              | .77                      | .45      | .08      |                            |
| Spray & Sandblasters   | 13.79              | .77                      | .45      | .08      |                            |
| Roofers:   |                    |                          |          |          |                            |
| Phoenix Area:  |                    |                          |          |          |                            |
| Roofers and Waterprooferers  | 11.66              | 1.095                    | .45      | .05      |                            |
| Tucson Area:   |                    |                          |          |          |                            |
| Asbestos, Shinglers, Tile and Waterproofing:   |                    |                          |          |          |                            |
| Zone A   | 10.77              | 1.095                    | .20      | .03      |                            |
| Zone B   | 13.02              | 1.095                    | .20      | .03      |                            |
| Sheet Metal Workers:   |                    |                          |          |          |                            |
| Apache, Coconino, Gila, Graham County (north of 33rd Parallel), Greenlee County (north of 33rd Parallel), Maricopa, Mohave, Navajo, Pinal County (north of 33rd Parallel), Yavapai, Yuma Counties: |                    |                          |          |          |                            |
| Zone 1   | 13.865             | 1.00                     | 1.515    | .12      |                            |
| Zone 2   | 14.515             | 1.00                     | 1.515    | .12      |                            |
| Zone 3   | 16.365             | 1.00                     | 1.515    | .12      |                            |
| Sprinkler Fitters  | 14.48              | .75                      | 1.05     | .00      |                            |

DECISION NO. CA78-5122 - Mod. 47

(43 FR 35835-August 11, 1978)

Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties, California

Change:

Carpenters:

| Basic Hourly Rates | Fringe Benefits Payments |          |          |     | Education and/or Appr. Tr. |
|--------------------|--------------------------|----------|----------|-----|----------------------------|
|                    | H & W                    | Pensions | Vacation |     |                            |
| \$11.57            | \$1.63                   | \$2.16   | \$1.00   | .09 |                            |
| 11.65              | 1.63                     | 2.16     | 1.00     | .09 |                            |
| 11.67              | 1.63                     | 2.16     | 1.00     | .09 |                            |
| 11.70              | 1.63                     | 2.16     | 1.00     | .09 |                            |
| 11.77              | 1.63                     | 2.16     | 1.00     | .09 |                            |
| 12.07              | 1.63                     | 2.16     | 1.00     | .09 |                            |

Add:

Electricians:  
Kern County:  
Electricians,  
Technicians  
Cable Splicers

|       |      |         |  |     |  |
|-------|------|---------|--|-----|--|
| 16.00 | 1.10 | 34+1.95 |  | .15 |  |
| 17.60 | 1.10 | 34+1.95 |  | .15 |  |

Omit:

Electricians:  
Kern (China Lake Naval Ordnance Test Station Edwards AFB):  
Electricians,  
Technicians  
Cable Splicers  
Kern County (Remainder of County):  
Electricians,  
Technicians  
Cable Splicers

|       |      |         |  |     |  |
|-------|------|---------|--|-----|--|
| 16.75 | 1.00 | 34+1.75 |  | .15 |  |
| 18.43 | 1.00 | 34+1.75 |  | .15 |  |
| 13.75 | 1.00 | 34+1.75 |  | .15 |  |
| 15.13 | 1.00 | 34+1.75 |  | .15 |  |

DECISION NO. CA78-5123 - Mod. 49

(43 FR 36839-August 18, 1978)

Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties, California

Change:

Carpenters:

| Basic Hourly Rates | Fringe Benefits Payments |          |          |     | Education and/or Appr. Tr. |
|--------------------|--------------------------|----------|----------|-----|----------------------------|
|                    | H & W                    | Pensions | Vacation |     |                            |
| \$11.57            | \$1.63                   | \$2.16   | \$1.00   | .09 |                            |
| 11.65              | 1.63                     | 2.16     | 1.00     | .09 |                            |
| 11.67              | 1.63                     | 2.16     | 1.00     | .09 |                            |
| 11.70              | 1.63                     | 2.16     | 1.00     | .09 |                            |
| 11.77              | 1.63                     | 2.16     | 1.00     | .09 |                            |
| 11.82              | 1.63                     | 2.16     | 1.00     | .09 |                            |
| 12.07              | 1.63                     | 2.16     | 1.00     | .09 |                            |

Add:

Electricians:  
Kern County:  
Electricians,  
Technicians  
Cable Splicers

|       |      |         |  |     |  |
|-------|------|---------|--|-----|--|
| 16.00 | 1.10 | 34+1.95 |  | .15 |  |
| 17.60 | 1.10 | 34+1.95 |  | .15 |  |

Omit:

Electricians:  
Kern (China Lake Naval Ordnance Test Station Edwards AFB):  
Electricians,  
Technicians  
Cable Splicers  
Kern County (Remainder of County):  
Electricians,  
Technicians  
Cable Splicers

|       |      |         |  |     |  |
|-------|------|---------|--|-----|--|
| 16.75 | 1.00 | 34+1.75 |  | .15 |  |
| 18.43 | 1.00 | 34+1.75 |  | .15 |  |
| 13.75 | 1.00 | 34+1.75 |  | .15 |  |
| 15.13 | 1.00 | 34+1.75 |  | .15 |  |



## INSTRUCTIONS TO BIDDERS

(CONSTRUCTION CONTRACT)

1. **Explanations to Bidders.** Any explanation desired by a bidder regarding the meaning or interpretation of the invitation for bids, drawings, specifications, etc., must be requested in writing and with sufficient time allowed for a reply to reach bidders before the submission of their bids. Any interpretation made will be in the form of an amendment of the invitation for bids, drawings, specifications, etc., and will be furnished to all prospective bidders. Its receipt by the bidder must be acknowledged in the space provided on the Bid Form (Standard Form 21) or by letter or telegram received before the time set for opening of bids. Oral explanations or instructions given before the award of the contract will not be binding.

2. **Conditions Affecting the Work.** Bidders should visit the site and take such other steps as may be reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Failure to do so will not relieve bidders from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Government will assume no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of the contract, unless included in the invitation for bids, the specifications, or related documents.

3. **Bidder's Qualifications.** Before a bid is considered for award, the bidder may be requested by the Government to submit a statement regarding his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the work.

4. **Bid Guarantee.** Where a bid guarantee is required by the invitation for bids, 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.

A bid guarantee shall be in the form of a firm commitment, such as a bid bond, postal money order, certified check, cashier's check, irrevocable letter of credit or, in accordance with Treasury Department regulations, cer-

tain bonds or notes of the United States. Bid guarantees, other than bid bonds, will be returned (a) to unsuccessful bidders as soon as practicable after the opening of bids, and (b) to the successful bidder upon execution of such further contractual documents and bonds as may be required by the bid as accepted.

If the successful bidder, upon acceptance of his bid by the Government within the period specified therein for acceptance (sixty days if no period is specified) fails to execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (ten days if no period is specified) after receipt of the forms by him, his contract may be terminated for default. In such event he shall be liable for any cost of procuring the work which exceeds the amount of his bid, and the bid guarantee shall be available toward offsetting such difference.

5. **Preparation of Bids.** (a) Bids shall be submitted on the forms furnished, or copies thereof, and must be manually signed. If erasures or other changes appear on the forms, each erasure or change must be initialed by the person signing the bid. Unless specifically authorized in the invitation for bids, telegraphic bids will not be considered.

(b) The bid form may provide for submission of a price or prices for one or more items, which may be lump sum bids, alternate prices, scheduled items resulting in a bid on a unit of construction or a combination thereof, etc. Where the bid form explicitly requires that the bidder bid on all items, failure to do so will disqualify the bid. When submission of a price 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.

(c) Unless called for, alternate bids will not be considered.

(d) Modifications of bids already submitted will be considered if received at the office designated in the invitation for bids by the time set for opening of bids. Telegraphic modifications will be considered, but should not reveal the amount of the original or revised bid.

6. Submission of Bids. Bids must be sealed, marked, and addressed as directed in the invitation for bids. Failure to do so may result in a premature opening of, or a failure to open, such bid.

7. Late Bids and Modifications or Withdrawals. (This paragraph applies to all advertised solicitations. In the case of Department of Defense negotiated solicitations, it shall also apply to late offers and modifications (other than the normal revisions of offers by selected offerors during the usual conduct of negotiations with such offerors) but not to withdrawal of offers. Unless otherwise provided, this paragraph does not apply to negotiated solicitations issued by civilian agencies.)

(a) Bids and modifications or withdrawals thereof received at the office designated in the invitation for bids after the exact time set for opening of bids will not be considered unless: (1) They are received before award is made; and either (2) they are sent by registered mail, or by certified mail for which an official dated post office stamp (postmark) on the original Receipt for Certified Mail has been obtained and it is determined by the Government that the late receipt was due solely to delay in the mails for which the bidder was not responsible; or (3) if submitted by mail (or by telegram if authorized), it is determined by the Government that the late receipt was due solely to mishandling by the Government after receipt at the Government installation: *Provided*, That timely receipt at such installation is established upon examination of an appropriate date or time stamp (if any) of such installation, or of other documentary evidence of receipt (if readily available) within the control of such installation or of the post office serving it. However, a modification which makes the terms of the otherwise successful bid more favorable to the Government will be considered at any time it is received and may thereafter be accepted.

(b) Bidders using certified mail are cautioned to obtain a Receipt for Certified Mail showing a legible, dated postmark and to retain such receipt against the chance that it will be required as evidence that a late bid was timely mailed.

(c) The time of mailing of late bids submitted by registered or certified mail shall be deemed to be the last minute of the date shown in the postmark on the registered mail receipt or registered mail wrapper or on

the Receipt for Certified Mail unless the bidder furnishes evidence from the post office station of mailing which establishes an earlier time. In the case of certified mail, the only acceptable evidence is as follows: (1) Where the Receipt for Certified Mail identifies the post office station of mailing, evidence furnished by the bidder which establishes that the business day of that station ended at an earlier time, in which case the time of mailing shall be deemed to be the last minute of the business day of that station; or (2) an entry in ink on the Receipt for Certified Mail showing the time of mailing and the initials of the postal employee receiving the item and making the entry, with appropriate written verification of such entry from the post office station of mailing, in which case the time of mailing shall be the time shown in the entry. If the postmark on the original Receipt for Certified Mail does not show a date, the bid shall not be considered.

8. Withdrawal of Bids. Bids may be withdrawn by written or telegraphic request received from bidders prior to the time set for opening of bids.

9. Public Opening of Bids. Bids will be publicly opened at the time set for opening in the invitation for bids. Their content will be made public for the information of bidders and others interested, who may be present either in person or by representative.

10. Award of Contract. (a) Award of contract will be made to that responsible bidder whose bid, conforming to the invitation for bids, is most advantageous to the Government, price and other factors considered.

(b) The Government may, when in its interest, reject any or all bids or waive any informality in bids received.

(c) The Government may accept any item or combination of items of a bid, unless precluded by the invitation for bids or the bidder includes in his bid a restrictive limitation.

11. Contract and Bonds. The bidder whose bid is accepted will, within the time established in the bid, enter into a written contract with the Government and, if required, furnish performance and payment bonds on Government standard forms in the amounts indicated in the invitation for bids or the specifications.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

|   |  |                             |  |                                |
|---|--|-----------------------------|--|--------------------------------|
| 1. AMENDMENT/MODIFICATION NO.<br>Amendment No. 2  |  | 2. EFFECTIVE DATE<br>5-6-80 | 3. REQUISITION/PURCHASE REQUEST NO.                | 4. PROJECT NO. (If applicable) |
| 5. ISSUED BY<br>Townsend and Bottum, Inc.<br>Field Construction Office<br>P.O. Box 366<br>Daggett, CA 92327 |  | CODE                        | 6. ADMINISTERED BY (If other than block 5)<br>CODE |                                |

|   |  |      |               |   |
|---|--|------|---------------|---|
| 7. CONTRACTOR NAME AND ADDRESS<br>ALL PLANHOLDERS<br><i>(Street, city, county, state, and ZIP Code)</i> |  | CODE | FACILITY CODE | 8. AMENDMENT OF SOLICITATION NO. TB-FB-96-80-JC50005<br>DATED 4-16-80 (See block 9)<br>MODIFICATION OF CONTRACT/ORDER NO.<br>DATED (See block 11) |
|---|--|------|---------------|---|

9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS  
 The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers  is extended,  is not extended.  
 Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:  
 (a) By signing and returning \_\_\_\_\_ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. ACCOUNTING AND APPROPRIATION DATA (If required)

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS  
 (a)  This Change Order is issued pursuant to \_\_\_\_\_  
 The Changes set forth in block 12 are made to the above numbered contract/order.  
 (b)  The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12.  
 (c)  This Supplemental Agreement is entered into pursuant to authority of \_\_\_\_\_  
 It modifies the above numbered contract as set forth in block 12.

12. DESCRIPTION OF AMENDMENT/MODIFICATION  
 Solicitation Number TB-FB-96-80-JC50005 is hereby amended to include the revision denoted as follows:  
 1) The addition of the attached Modification Number 10 (April 4, 1980) to the Department of Labor Wage Determination Decision CA78-5123 dtd. 8/18/78.

RECEIVED  
 MAY 7 1980  
 TOWNSEND & BOTTUM INC.

Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.

|  |                 |   |                           |
|--|-----------------|---|---------------------------|
| 13. <input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT <input type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN _____ COPIES TO ISSUING OFFICE |                 |   |                           |
| 14. NAME OF CONTRACTOR/OFFEROR<br>BY _____<br>(Signature of person authorized to sign)   |                 | 17. Townsend and Bottum, Inc.<br>BY <u>Robert J. Frendt</u><br>(Signature of Contracting Officer) |                           |
| 15. NAME AND TITLE OF SIGNER (Type or print)   | 16. DATE SIGNED | 18. NAME OF CONTRACTING OFFICER (Type or print)<br>R. J. Frendt                                   | 19. DATE SIGNED<br>5/6/80 |

## DEPARTMENT OF LABOR

Employment Standards  
Administration, Wage and Hour  
DivisionMinimum Wages for Federal and  
Federally Assisted Construction;  
General Wage Determination  
Decisions

General wage determination decisions of the Secretary of Labor specify, in accordance with applicable law and on the basis of information available to the Department of Labor from its study of local wage conditions and from other sources, the basic hourly wage rates and fringe benefit payments which are determined to be prevailing for the described classes of laborers and mechanics employed on construction projects of the character and in the localities specified therein.

The determinations in these decisions of such prevailing rates and fringe benefits have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of part 1 of subtitle A of title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 12-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

Good cause is hereby found for not utilizing notice and public procedure thereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in effective date as prescribed in that section, because the necessity to issue construction industry wage determination frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General wage determination decisions are effective from their date of publication in the Federal Register without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Accordingly, the applicable decision together with any modifications issued subsequent to its publication date shall be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable Federal prevailing wage law and 29 CFR, Part 5. The wage rates contained therein shall be the minimum paid under such contract by contractors and subcontractors on the work.

Modifications and Supersedeas  
Decisions to General Wage  
Determination Decisions

Modifications and supersedeas decisions to general wage determination decisions are based upon information obtained concerning changes in prevailing hourly wage rates and fringe benefit payments since the decisions were issued.

The determinations of prevailing rates and fringe benefits made in the modifications and supersedeas decisions have been made by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR 1.1 (including the statutes listed at 36 FR 306 following Secretary of Labor's Order No. 24-70) containing provisions for the payment of wages which are dependent upon determination by the Secretary of Labor under the Davis-Bacon Act; and pursuant to the provisions of part 1 of subtitle A of title 29 of Code of Federal Regulations, Procedure for Predetermination of Wage Rates (37 FR 21138) and of Secretary of Labor's Orders 13-71 and 15-71 (36 FR 8755, 8756). The prevailing rates and fringe benefits determined in foregoing general wage determination decisions, as hereby modified, and/or superseded shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged in contract work of the character and in the localities described therein.

Modifications and supersedeas decisions are effective from their date of publication in the Federal Register without limitation as to time and are to be used in accordance with the provisions of 29 CFR Parts 1 and 5.

Any person, organization, or governmental agency having an interest in the wages determined as prevailing is encouraged to submit wage rate information for consideration by the Department. Further information and self-explanatory forms for the purpose of submitting this data may be obtained by writing to the U.S. Department of Labor, Employment Standards

Administration, Wage & Hour Division, Office of Government Contract Wage Standards, Division of Construction Wage Determinations, Washington, D.C. 20210. The cause for not utilizing the rulemaking procedures prescribed in 5 U.S.C. 553 has been set forth in the original General Determination Decision.

New General Wage Determination  
Decisions

None.

Modifications To General Wage  
Determination Decisions

The numbers of the decisions being modified and their dates of publication in the Federal Register are listed with each State.

|                |       |                |
|----------------|-------|----------------|
| Arkansas:      |       |                |
| AR79-4056      | _____ | Mar. 30, 1978. |
| California:    |       |                |
| CA78-5122      | _____ | Aug. 11, 1978. |
| Connecticut:   |       |                |
| CT79-2010      | _____ | Apr. 6, 1979.  |
| CT79-2011      | _____ | Apr. 6, 1979.  |
| Massachusetts: |       |                |
| MA80-2001      | _____ | Mar. 7, 1980.  |
| New York:      |       |                |
| NY79-3011      | _____ | May 18, 1978.  |
| Texas:         |       |                |
| TX79-4051      | _____ | May 4, 1978.   |
| TX79-4086      | _____ | Oct. 5, 1978.  |
| TX80-4001      | _____ | Jan. 4, 1980.  |
| TX80-4003      | _____ | Jan. 4, 1980.  |
| TX80-4004      | _____ | Jan. 4, 1980.  |
| TX80-4005      | _____ | Jan. 4, 1980.  |

Supersedeas Decisions to General Wage  
Determination Decisions

The numbers of the decisions being superseded and their dates of publication in the Federal Register are listed with each State. Supersedeas decision numbers are in parentheses following the numbers of the decisions being superseded.

|                       |       |                 |
|-----------------------|-------|-----------------|
| Iowa:                 |       |                 |
| NE78-4184 (NE80-4025) | _____ | Dec. 3, 1978.   |
| Kansas:               |       |                 |
| KS78-4009 (KS80-4009) | _____ | Feb. 3, 1978.   |
| KS78-4008 (KS80-4011) | _____ | Feb. 3, 1978.   |
| KS78-4010 (KS80-4010) | _____ | Feb. 10, 1978.  |
| Nebraska:             |       |                 |
| NE78-4184 (NE80-4025) | _____ | Dec. 3, 1978.   |
| NE79-4027 (NE80-4022) | _____ | Feb. 16, 1979.  |
| New York:             |       |                 |
| NY79-3014 (NY80-3020) | _____ | July 6, 1979.   |
| NY79-3025 (NY80-3022) | _____ | Aug. 10, 1979.  |
| Pennsylvania:         |       |                 |
| PA78-3013 (PA80-3010) | _____ | Apr. 14, 1978.  |
| Texas:                |       |                 |
| TX79-4045 (TX80-4024) | _____ | June 22, 1978.  |
| Virginia:             |       |                 |
| VA78-3061 (VA80-3004) | _____ | Sept. 15, 1978. |
| VA78-3063 (VA80-3005) | _____ | Sept. 22, 1978. |
| Wisconsin:            |       |                 |
| WI78-2146 (WI80-2013) | _____ | Oct. 27, 1978.  |
| WI78-2129 (WI80-2014) | _____ | Oct. 20, 1978.  |

Cancellation of General Wage  
Determination Decisions

None.

Signed at Washington, D.C., this 28th day of March 1980.

Dorothy P. Come,

Assistant Administrator, Wage and Hour  
Division.

MODIFICATION PAGE 1

DECISION PAR79-4056-Mod. #5  
44 FR 19100-March 30, 1979  
Garland, Hot Springs and  
Clark Counties, Arkansas

CHANGE:  
ELECTRICIANS:  
Electricians  
Cable splicers

| Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| \$11.17            |                          | 3%       |          | 1/4%                       |
| 11.295             |                          | 3%       |          | 1/4%                       |

DECISION NO. CA78-5122 - Mod. #8  
(43 FR 35835 - August 11, 1978)

Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties California

Change:  
Power Equipment Operators  
Group 1:  
Group 2:  
Group 3:  
Group 4:  
Group 5:  
Group 6:  
Group 7:  
Group 8:  
Group 9:

| Basic Hourly Rates | H & W | Pensions | Vacation | Education and/or Appr. Tr. |
|--------------------|-------|----------|----------|----------------------------|
| \$11.60            | 1.10  | 2.60     | .85      | .14                        |
| 11.88              | 1.10  | 2.60     | .85      | .14                        |
| 12.17              | 1.10  | 2.60     | .85      | .14                        |
| 12.31              | 1.10  | 2.60     | .85      | .14                        |
| 12.53              | 1.10  | 2.60     | .85      | .14                        |
| 12.64              | 1.10  | 2.60     | .85      | .14                        |
| 12.76              | 1.10  | 2.60     | .85      | .14                        |
| 12.93              | 1.10  | 2.60     | .85      | .14                        |
| 13.06              | 1.10  | 2.60     | .85      | .14                        |

MODIFICATION PAGE 2

DECISION NO. CA78-5123 - Mod. #10  
(43 FR 36839 - August 18, 1978)

Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Luis Obispo, Santa Barbara and Ventura Counties California

Change:  
Power Equipment Operators  
Group 1:  
Group 2:  
Group 3:  
Group 4:  
Group 5:  
Group 6:  
Group 7:  
Group 8:  
Group 9:

| Basic Hourly Rates | Fringe Benefits Payments |          |          |                            |
|--------------------|--------------------------|----------|----------|----------------------------|
|                    | H & W                    | Pensions | Vacation | Education and/or Appr. Tr. |
| \$11.60            | 1.10                     | 2.60     | .85      | .14                        |
| 11.88              | 1.10                     | 2.60     | .85      | .14                        |
| 12.17              | 1.10                     | 2.60     | .85      | .14                        |
| 12.31              | 1.10                     | 2.60     | .85      | .14                        |
| 12.53              | 1.10                     | 2.60     | .85      | .14                        |
| 12.64              | 1.10                     | 2.60     | .85      | .14                        |
| 12.76              | 1.10                     | 2.60     | .85      | .14                        |
| 12.93              | 1.10                     | 2.60     | .85      | .14                        |
| 13.06              | 1.10                     | 2.60     | .85      | .14                        |

Add:  
Line Construction:  
Kern County  
Linemen  
Cable Splicers  
Equipment Op.  
Groundmen

| Basic Hourly Rates | H & W | Pensions | Vacation | Education and/or Appr. Tr. |
|--------------------|-------|----------|----------|----------------------------|
| 16.00              | 1.10  | 3%+1.95  |          | .15                        |
| 17.60              | 1.10  | 3%+1.95  |          | .15                        |
| 16.00              | 1.10  | 3%+1.95  |          | .15                        |
| 12.00              | 1.10  | 3%+1.95  |          | .15                        |

Omit:  
Line Construction:  
Kern (China Lake Naval Ordnance Test Station and Edwards AFB)  
Groundmen  
Linemen  
Cable Splicers

| Basic Hourly Rates | H & W | Pensions | Vacation | Education and/or Appr. Tr. |
|--------------------|-------|----------|----------|----------------------------|
| 12.44              | .90   | 3%+1.60  |          | .15                        |
| 15.75              | .90   | 3%+1.60  |          | .15                        |
| 17.33              | .90   | 3%+1.60  |          | .15                        |

Kern County (Remainder of County)  
Groundmen  
Linemen  
Cable Splicers

| Basic Hourly Rates | H & W | Pensions | Vacation | Education and/or Appr. Tr. |
|--------------------|-------|----------|----------|----------------------------|
| 9.94               | .90   | 3%+1.60  |          | .15                        |
| 13.25              | .90   | 3%+1.60  |          | .15                        |
| 14.58              | .90   | 3%+1.60  |          | .15                        |

# DOE FILE COPY

SAN/0499-37  
MDC G8175

DOE/SF/10499-T81S  
(STMPO-154)

10 MWe Solar Thermal  
Central Receiver Pilot Plant

SOLAR FACILITIES DESIGN INTEGRATION

## CONSTRUCTION PACKAGE NO. 7 (RADL ITEM 7-32) THERMAL STORAGE AND PLANT SUPPORT SUBSYSTEM FOUNDATIONS

April 1980

WORK PERFORMED UNDER CONTRACT  
DE-AC03-79SF10499

STEARNS-ROGER ENGINEERING CORP  
4500 CHERRY CREEK DRIVE  
P.O. BOX 5888  
DENVER, CO 80217



# U.S. Department of Energy



Solar Energy

**10 MWe Solar Thermal  
Central Receiver Pilot Plant  
Solar Facilities Design Integration**

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**CONSTRUCTION PACKAGE NO. 7 (RADL ITEM 7-32)  
THERMAL STORAGE AND PLANT SUPPORT  
SUBSYSTEM FOUNDATIONS**

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**April 1980**

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**STEARNS-ROGERS ENGINEERING CORP  
4500 CHERRY CREEK DRIVE  
P.O. BOX 5888  
DENVER, CO 80217**

**PREPARED FOR THE  
U.S. DEPARTMENT OF ENERGY  
SOLAR ENERGY  
UNDER CONTRACT DE-AC-03-79SF10499**

## PREFACE

This technical construction package is provided by McDonnell Douglas Astronautics Company (MDAC) in accordance with Department of Energy Contract No. DE-AC03-79SF10449, Reports and Deliverables List (RADL), Item 7-32. The report was prepared by Stearns-Roger Engineering Corporation under MDAC Subcontract No. 78012035.

This technical construction package will be included in the invitation for bid being prepared by the Department of Energy for the Thermal Storage and Plant Support Subsystem Foundations Construction Package No. 7. This package defines the effort necessary to construct the various TSS/PSS reinforced concrete substructures and foundations, complete with embedded items. These include the various TSS/PSS building foundations, the pipe rack foundations, various tank foundations, the TSU containment basin, the TSS waste oil sump, various pump and TSS skid mounted equipment assemblies, pipe trenches and other TSS/PSS miscellaneous foundations and earthwork effort.

RADL 7-32 includes two parts, as follows:

- Technical Specifications for Construction Package No. 7, identified as STMPO Drawing No. 40C7005S (Stearns-Roger Project No. C-21700)
- Supplemental construction drawings as identified in Paragraph 2.1 of the Technical Specification

Questions concerning this report should be directed to R. J. Perkins at (714) 896-3073.



THERMAL STORAGE AND PLANT  
SUPPORT SUBSYSTEM FOUNDATIONS  
CONSTRUCTION PACKAGE #7

REVISION 1

MAY 7, 1980

1. Revision 1 is issued to:
  - a. Modify embedded conduit locations to comply with TSS skid requirements.
  - b. Revise several pipe rack foundations.
  - c. Add required pipe sleeves and blockouts in trench and buildings for future piping.
  - d. Add requirement for aggregate and grading in Secondary Fire Pump Building area.
  - e. Modify core road and EPGS Control Building to reflect SCE requirements.
  - f. Revise Secondary Fire Pump foundation to incorporate latest vendor information.
2. Remove pages TI-2, TI-4, and TI-5 and replace with corresponding pages attached hereto. Changes to these pages are denoted by Revision 1 in the right-hand margin opposite the items changed.
3. This Revision 1 includes:
  - a. Cover sheet
  - b. Technical Information pages TI-2, TI-4, and TI-5.
  - c. S-R drawings enclosed as listed as Revision 1 on pages TI-4 and TI-5.

STEARNS-ROGER  
ENGINEERING CORP.

PROJECT NO. C-21700

Thermal Storage and Plant  
Support Subsystem Foundations  
Construction Package No. 7  
Revision 2  
July 18, 1980

Revision 2 is issued to cover revisions to Stearns-Roger Drawings Nos. 40C1005133907, 40C7005133115, 40C7005133116, 40C7005133117, 40C7005133118, 40C3005132001, 40C3005132002, 40C3005132003, 40C7005133126, 40C1005133900 and 40P7005133159 as referenced on pages TI-4 and TI-5.

1. This revision consists of:
  - a. Modification to primary electric fire pump foundation to accommodate vendor information.
  - b. Update in accordance with latest SCE foundation and electrical manhole requirements.
  - c. Increase in size of LN<sub>2</sub> slab.
  - d. Revise anchor bolt spacing for Instrument Cabinet on Thermal Storage Tank Foundation.
  - e. Minor dimensional clarifications to TSU Area Equipment Foundations and Containment Structure.
  - f. Add blockout in TSS area slab for TSS flash tank drain pump.
  - g. Minor dimensional clarifications to pump building foundation.
  - h. Reroute 6" oil water pipe from EPGS area.

Remove pages TI-4 and TI-5 and replace with corresponding pages attached hereto. Changes to these pages are denoted by a 2 in the right-hand margin opposite the items changed.

This Revision 2 includes:

1. Cover sheet
2. Technical Information pages TI-4 and TI-5.
3. Stearns-Roger drawings enclosed as listed by Revision 2 on pages TI-4 and TI-5.

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THERMAL STORAGE AND PLANT  
SUPPORT SUBSYSTEM FOUNDATIONS  
CONSTRUCTION PACKAGE #7

REVISION 3

OCTOBER 17, 1980

Revision 3 is issued to cover revisions to S-R Drawings Nos. 40C1005133907, 40C3005132005, 40C7005133115, 40C7005133116, 40C7005133117, 40C7005133118, 40C3005132001, 40C3005132002, 40C7005133126, 40E7005133196, 40E7005133221, 40E3005132024, 40E3005132025, 40P7005133154, 40P7005133159, 40P7005133160 and 40P7005133161 as referenced on pages TI-4 and TI-5.

1. This revision consist of the following:
  - a) Removed manhole #6 and added coordinates to Condensate Storage Tank on Core Area Key Plan.
  - b) Revised footings in building 710 to accommodate electrical ductbank per FDCR #20.
  - c) Removed blockouts and added piping interface at buildings 709 and 710 per FDCR #28.
  - d) Revised location of Condensate Polisher Acid Tank per SCE.
  - e) Added concrete pad for jockey pump in the Raw/Service Water Pump building per FDCR #30.
  - f) Revised slab breaking point change at CMU tank per FDCR #21.
  - g) Revised slab north of Thermal Storage Electrical Equipment building to clear road.
  - h) Revised transformer foundation per latest vendor information.
  - i) Minor dimensional clarifications.
  - j) Added hanger targets and 1-1/2" DR-16-AQD to pipe trench.

STEARNS-ROGER  
ENGINEERING CORP.

PROJECT NO. C-21700

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Thermal Storage and Plant  
Support Subsystem Foundations  
Construction Package #7

Jan. 9, 1981

Revision 4 is issued to cover revisions to S-R Drawing No. 40C1005133923 as referenced on page TI-5.

1. This revision consists of the following:
  - a) Deleted manhole #6
  - b) Revised location of roadway west of Demineralized Water Tank per FDCR #45C.
2. This revision includes:
  - a) Cover Sheet
  - b) Page TI-5

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FORRESTER & BOSTON INC.

TECHNICAL SPECIFICATION

NO. 40 C 700 - 55

April 4, 1980

Rev. 1 May 7, 1980

Rev. 2 July 18, 1980

Rev. 3 October 17, 1980

Rev. 4 January 9, 1981

for

**THERMAL STORAGE AND PLANT  
SUPPORT SUBSYSTEM FOUNDATIONS**

**CONSTRUCTION PACKAGE # 7**

Prepared by:

**Stearns-Roger**  
ENGINEERING CORP.

PROJECT NO. C-21700

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TOWNSEND & BROWN INC.

CONSTRUCTION PACKAGE #7  
THERMAL STORAGE & PLANT SUPPORT  
SUBSYSTEMS FOUNDATIONS  
SECTION 4 - IFB

NOTICE

Wherever the term "Construction Manager" is used, it is intended that it shall mean the Contracting Officer's duly authorized representative which is Townsend and Bottum, Inc.

The Construction Manager will not direct the day-to-day operations of the Contractor, but will provide the inspection and verification of the Contractor's performance in accordance with the design specifications and drawings.

TECHNICAL SPECIFICATIONS FOR  
CONSTRUCTION PACKAGE #7  
THERMAL STORAGE & PLANT SUPPORT  
SUBSYSTEMS FOUNDATIONS  
SECTION 4 - IFB

SECTION TI - TECHNICAL INFORMATION

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| 8.0            | TS Tank Foundation and Containment Basin  | TI-41       |
| 9.0            | Drain Piping                              | TI-44       |
| 10.0           | Electrical Work                           | TI-48       |
| 11.0           | Prime and Touch-Up Painting               | TI-53       |
| 12.0           | Aggregate Base Courses                    | TI-56       |
| 13.0           | Test Requirements, Reports and Procedures | TI-58       |
| 14.0           | Clean-Up                                  | TI-60       |

CONSTRUCTION PACKAGE #7  
THERMAL STORAGE & PLANT SUPPORT  
SUBSYSTEMS FOUNDATIONS  
SECTION 4 - IFB

LIST OF ABBREVIATIONS

The following abbreviations used in this Section 4 are defined as follows:

- ACI - American Concrete Institute
- AISC - American Institute of Steel Construction
- ASTM - American Society for Testing and Materials
- AWS - American Welding Society
- CRSI - Concrete Reinforcing Steel Institute
- IFB - Information for Bidders
- IMC - Intermediate Metal Conduit
- RGS - Rigid galvanized steel
- SSPC - Steel Structures Painting Council
- STMPO - Solar Ten Megawatt Project Office
- TOC - Top of Concrete
- TS - Thermal Storage
- UBC - Uniform Building Code



CONSTRUCTION PACKAGE #7  
SECTION 4 - IFB  
TECHNICAL INFORMATION

1.0 SCOPE OF WORK

The Work of this Contract consists of constructing the specified foundations, substructures, containment basin, and aggregate base courses for the 10 MWe Solar Pilot Plant near Daggett, California.

1.1 Description of Work. The work to be performed hereunder includes, but shall not necessarily be limited to, the following:

1.1.1. Constructing the following reinforced concrete substructures and foundations, complete with embedded items:

- 1.1.1.1. Thermal Storage Pump Area, including oil pipe trenches.
- 1.1.1.2. Thermal Storage Heat Exchanger Area.
- 1.1.1.3. Thermal Storage Electric Building Foundation and transformer pad.
- 1.1.1.4. Foundations for two (2) Thermal Storage Control Buildings.
- 1.1.1.5. Raw Water Pump Building foundations and pipe trench with covers.
- 1.1.1.6. T.S.S. waste oil sump.
- 1.1.1.7. Secondary Fire Pump Building foundations and pump pit.
- 1.1.1.8. Pipe Rack Foundations.
- 1.1.1.9. GN<sub>2</sub> Pad
- 1.1.1.10. Ullage Maintenance Unit equipment foundations.
- 1.1.1.11. TSS Blowdown Tank foundation.
- 1.1.1.12. Receiver Tower Personnel Hoist foundation and stair landing slab at grade.
- 1.1.1.13. Core Area Drainage Trench.
- 1.1.1.14. Electrical Manhole Nos. 4 and 5.
- 1.1.1.15. Electrical Duct bank.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

1.1.2. Constructing the Thermal Storage Containment Basin, including TS and Caloria Makeup Tank foundations, Fluid Makeup Pump foundation, retaining wall, sump, and concrete basin lining.

1.1.3. Constructing support mats of compacted granular material for the following tanks:

1.1.3.1. Raw Water Storage Tank

1.1.3.2. Demineralized Water Tank

1.1.4. Furnishing and installing drain piping, including drains and fittings, for the pump buildings, Thermal Storage Tank foundation, and the Thermal Storage Heat Exchanger and Pump Areas.

1.1.5. Furnishing and installing embedded and under-slab electrical conduit within the buildings and Thermal Storage Heat Exchanger and Pump Areas.

1.1.6. Furnishing and installing Thermal Storage Tank Foundation Instrumentation.

1.1.7. Furnishing and installing trench grating, checker plate, grating support channels, and handrail.

1.1.8. Constructing compacted aggregate base courses on the indicated areas located within the existing Core Area Perimeter Road and adjacent to the Secondary Fire Pump Building.

1.1.9. Excavating, bedding, backfilling, filling, borrowing, compacting, trenching, rough grading and other earthwork operations necessary for the foregoing construction.

1.1.10. Finish grading of the area within the Core Area Perimeter Road and Secondary Fire Pump Building as shown on the Drawings.

1.1.11. Surveying from existing reference points, as necessary for maintaining horizontal and vertical control of the Contractor's work.

1.1.12. Performing field touch-up painting of shop-prime-coated metal surfaces.

1.1.13. Maintaining and leaving work areas of this Contract in satisfactorily neat and clean condition.

1.1.14. Furnishing labor, supervision, equipment, materials, temporary facilities, tools, supplies and services not furnished by others and which are necessary for the Work of this Contract.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

1.2. Work Not Included. The following items of work related to the work hereunder, will be performed by others:

1.2.1. Establishing horizontal and vertical control points for the Contractor's reference.

1.2.2. Sampling and testing of soils and their in-place compacted densities, and sampling and testing of concrete materials and concrete.

1.2.3. Constructing the Receiver Tower foundation.

1.2.4. Paving of areas to receive aggregate base course.

1.2.5. Field finish painting of metalwork installed under this Contract.

1.2.6. Furnishing and installing or erecting buildings, tanks, equipment, pipe racks, piping and electrical conduit on the substructures, foundations, mats and slabs constructed under this Contract.

1.2.7. Stamping foundation settlement check plates.

1.2.8. Area dust control.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

2.0. SUPPLEMENTS

The following Supplements are furnished with and unless otherwise noted, form a part of these Specifications:

2.1. Stearns-Roger Engineering Corporation Drawings

| <u>Drawing No.</u> | <u>S-R Drawing No.</u> | <u>Sheet No.</u> | <u>Rev.</u> | <u>Title</u>  |       |
|--------------------|------------------------|------------------|-------------|---|-------|
| 40C1005133905      | XL22934                | C1-1             | 1           | Settlement Record   |       |
| 40C1005133907      | XL22934                | C2-1             | 6           | Core Area Key Plan and<br>General Notes   | 1,2,3 |
| 40C3005132005      | XL22934                | C13-1            | 2           | Thermal Storage Control<br>Bldgs. and Electrical<br>Bldg. Foundations                       | 1,2   |
| 40C7005133115      | XL22934                | C17-1            | 3           | Raw/Service Water Pump<br>Bldg. Foundation  | 1,2,3 |
| 40C7005133116      | XL22934                | C17-2            | 3           | Secondary Fire Pump<br>Bldg. Foundation   | 1,2,3 |
| 40C7005133117      | XL22934                | C17-3            | 3           | Covered Pipe Trench and<br>Misc. Details  | 1,2,3 |
| 40C7005133118      | XL22934                | C17-4            | 1           | Pump Bldgs. Sections &<br>Details   | 2     |
| 40C2005131801      | XL22934                | C37-1            | 0           | Receiver Tower Foundation<br>Plan Sections & Details<br>(furnished for<br>information only) |       |
| 40C3005132001      | XL22934                | C38-1            | 2           | Thermal Storage<br>Subsystem Equipment<br>Foundations                                       | 2,3   |
| 40C3005132002      | XL22934                | C38-2            | 3           | Thermal Storage<br>Subsystem Tank and<br>Containment Foundation<br>Plan, Sections & Details | 1,2,3 |
| 40C3005132003      | XL22934                | C38-3            | 1           | Thermal Storage Subsystem<br><br>Tank Foundation Sections<br>& Details                      | 2     |
| 40C3005132022      | XL22934                | C38-4            | 1           | Thermal Storage Subsystem<br>Miscellaneous Foundations                                      | 1     |
| 40C7005133125      | XL22934                | C39-1            | 1           | Pipe Rack Foundations   | 1     |
| 40C7005133126      | XL22934                | C39-2            | 3           | Misc. Slabs & Foundations   | 1,2,3 |
| 40E7005133188      | XL22934                | E1-1             | 1           | Electrical Legend and<br>Symbols  |       |
| 40E7005133196      | XL22934                | E1-3             | 3           | Electrical General Notes  | 3     |
| 40E3002132033      | 9033/4                 | E6-1820          | 1           | TSU Foundation<br>Instrumentation   | 1     |
| 40E7005133221      | XL22934                | E12-14           | 2           | Electrical Underground<br>Conduit TSS Area  | 1,3   |
| 40E3005132024      | XL22934                | E12-15           | 2           | Electrical Underground<br>Details   | 1,3   |
| 40E3005132025      | XL22934                | E12-16           | 2           | Electrical Underground<br>Conduit Details   | 1,3   |

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| <u>Drawing No.</u> | <u>S-R Drawing No.</u> | <u>Sheet No.</u> | <u>Rev.</u> | <u>Title</u>   |     |
|--------------------|------------------------|------------------|-------------|--|-----|
| 40C1005133900      | XL22934                | G1-1             | 5           | General Arrangement Plot Plan (furnished for information only)                         | 2   |
| 40P7005133154      | XL22934                | P6-3             | 2           | Piping Arrangements - Auxiliary Buildings Pump Buildings Floor Drains Plans & Sections | 3   |
| 40P7005133159      | XL22934                | P8-4             | 4           | Underground Yard Piping Misc. Area Details   | 2,3 |
| 40P7005133160      | XL22934                | P8-5             | 3           | Underground Yard Piping Sections and Details   | 3   |
| 40P7005133161      | XL22934                | P8-6             | 3           | Underground Yard Piping Misc. Details  | 3   |
| 40C1005133911      | XL22934                | Y1-1             | 0           | Site Plot Plan Layout (furnished for information only)                                 |     |
| 40C1005133921      | XL22934                | Y2-1             | 0           | Initial Grading Plan (furnished for information only)                                  |     |
| 40C1005133922      | XL22934                | Y2-2             | 1           | Grading Sections and Details (furnished for information only)                          |     |
| 40C1005133923      | XL22934                | Y2-3             | 3           | Core Area Layout and Grading Plan  | 1,4 |
| 40C1005133924      | XL22934                | Y2-4             | 0           | Core Area Grading Sections and Details   |     |

2.2. Stearns-Roger Engineering Standards

| <u>S-R Standard No.</u> | <u>Date</u> | <u>Title</u>                              |
|-------------------------|-------------|---|
| DC21.01.1T              | 11/30/79    | Handrail Elevations - Level               |
| FB07.02.1               | 4/4/77      | Trench Angle "TA"                         |
| FB07.02.3               | 4/1/77      | Curb Angle "CA"                           |
| FB07.02.5               | 4/4/77      | Wall Angle "WA"                           |
| FB07.03.1               | 4/1/77      | Curb Channel "CC"                         |
| FB07.04.1               | 4/4/77      | Pipe Sleeve "PSP" W/PL                    |
| FB07.04.2               | 4/4/77      | Floor Sleeve "FS"                         |
| FB07.04.4               | 4/4/77      | Pipe Sleeve "PS"                          |
| FB07.05.1T              | 3/21/80     | Individual - Rung Ladder Bar "LB"         |
| FB07.05.2               | 4/4/77      | Pull Anchor "PA"                          |
| FC20.01.9               | 4/4/77      | Rod Bolt "RB" & Plate Washer              |
| FC20.01.10              | 4/4/77      | Rod Bolt "RBS" with Sleeve & Plate Washer |
| FC20.02.1               | 4/4/77      | Weld Plate "WP" -5 Kip Capacity           |
| FJ60.60                 | 7/16/79     | Documentation Requirements                |
| SE00.BBA                | 8/1/79      | Piping Material Specification "BBA"       |

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|          |        |  |
|----------|--------|--|
| SE00.YIB | 8/1/79 | Piping Material Specification<br>"YIB"               |
| SE02.1   |        | Coating (For Service<br>Temperatures 126 F - 300 F), |
| Page 1   | 2/4/80 |  |
| Page 2   | 8/1/79 |  |

Construction Test Checklist, Form C-21700 dated 10/19/79, 1 page.

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3.0. CODES AND STANDARDS

3.1. The codes, standards and publications of the following organizations form a part of these Specifications to the extent indicated by the references thereto:

- ACI - American Concrete Institute
- ASTM - American Society for Testing and Materials
- AWS - American Welding Society
- CRSI - Concrete Reinforcing Steel Institute
- NAAMM - National Association of Architectural Metal Manufacturers
- OSHA - Occupational Safety and Health Act
- SSPC - Steel Structures Painting Council
- AASHTO - American Association of State Highway and Transportation Officials
- Federal, State, County or Municipal Codes, Laws and Ordinances of the place of installation.

3.2. Should a conflict be found to exist between the listed codes and standards and this Specification, the conflict shall be submitted to the Construction Manager for resolution before proceeding with the affected work.

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4.0. DRAWING AND DATA SUBMITTALS

Prior to fabrication or delivery to the jobsite of the devices and materials to be installed under this Contract, the Contractor shall submit to the Construction Manager for review and comment, the drawings and descriptive data called for in the various Articles of this Section 4. Drawings and data submittal shall be in accordance with Article GC.14 of Section 3, GENERAL CONDITIONS, and Engineering Standard FJ60.60 attached.



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5.0. EARTHWORK

This Article is applicable to excavating, dewatering, borrow, disposal, trenching, ditching, filling, backfilling, hauling, placing, scarifying, wetting or drying, compacting, shaping, grading and other earthwork operations necessary for performance of the work of this Contract. Requirements for and construction of aggregate base courses is specified separately in Article 12.0, AGGREGATE BASE COURSES.

5.1. Materials. Except for sand and crushed stone from off-site sources, earthwork materials utilized in the work shall be obtained by the Contractor either from the Project Site excavations for the foundations, or on-site stockpiles designated by the Construction Manager.

5.1.1. Suitable Materials. To be considered suitable for use in the work, soils, other than bedding material, shall be free from perishable matter, trash, debris, frost or frozen material, and stones and hard cemented pieces larger than 3 inches, and shall be compactible with or without blending, to the required densities. In addition, all material placed within 18 inches of finished grade shall swell less than 3 percent when tested in accordance with Uniform Building Code Test Method 29-2. Material excavated from within the limits of the compacted structural fill zone described in Paragraph 5.3.1. will meet the above requirements. Materials for, and additional requirements applicable to, construction of tank mats are specified in Paragraph 5.10., Tank Mats.

5.1.2. Unsuitable Material

5.1.2.1. Material containing perishable matter such as roots, sod, grass, decayed vegetable matter, debris, or materials having unsatisfactory compaction characteristics shall be classified as unsuitable for use in the work.

5.1.2.2. Soils which are temporarily unsuitable due to excessive moisture or improper gradation will not be classified as unsuitable unless such material cannot be satisfactorily reclaimed by screening, aerating, or blending with other materials, as determined by the Construction Manager's Testing Agency.

5.1.2.3. Temporarily unusable materials shall be stockpiled in accordance with Paragraph 5.2.8 "Stockpiling." Permanently unsuitable materials shall be wasted in accordance with Paragraph 5.2.9 "Wasting."

5.1.3. Bedding Material. Material for bedding buried conduit and drain piping shall be clean sand or sandy soil, all of which will pass a No. 4 sieve, and shall be free from perishable matter, trash, debris, frost and frozen material.

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5.1.4. Insulating Fill. Insulating fill material for protecting hot oil drain piping shall be an inert, hydrophobic mineral powder manufactured for the purpose, and which does not require heat curing before backfilling. The material shall be "Protexulate" manufactured by Protexulate Division of Pleuss Stauffer Inc., or a Construction Manager-approved equal.

5.2. General Requirements

5.2.1. Lines and Grades

5.2.1.1. All earthwork shall be performed to the lines, grades and sections shown and/or specified.

5.2.1.2. The Contractor shall maintain stakes and other established survey markers until authorized to remove them. Where such markers are destroyed by the Contractor or lost through his negligence prior to their authorized removal, the Construction Manager may require that they be replaced by and at the expense of the Contractor.

5.2.2. Drainage Control and Dewatering. The Contractor shall maintain drainage in his work areas to prevent ponding, erosion, and excessively wet or unstable soil conditions. Operations shall include the following:

5.2.2.1. Grading in the vicinity of and for a distance of approximately 25 feet outside each excavation shall be controlled to prevent surface water from entering the excavation.

5.2.2.2. Water accumulating in excavations, from whatever source, shall be promptly removed by the Contractor. Dewatering operations shall be continued as necessary for maintaining suitable conditions in the excavations during backfilling operations. Disposal of drainage water shall be performed in a manner acceptable to the Construction Manager.

5.2.3. Weather Limitations. Earthwork compaction operations shall not be performed during periods when freezing temperatures, excessive moisture, or similar factors cause doubt that satisfactory results will be obtained. Should prevailing temperatures induce frost in fill or subgrade, placement shall be suspended and shall not be resumed until conditions are favorable.

5.2.4. Compaction Control

5.2.4.1. Moisture-density relations of soils will be determined in accordance with ASTM D1557 which will be referred to hereafter as control density. Field in-place density tests of compacted fill, backfill and subgrade, will be performed in accordance with ASTM D1556, D2167 or D2922. Where in-place densities fall below specified minimums, the Contractor will be required to rework those zones until the required densities are obtained.

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5.2.4.2. During placing and/or compacting operations, the moisture content of material in the layer being compacted shall be near optimum (optimum +1, -3 percent) and shall be uniform throughout the layer. The Contractor shall perform all operations necessary to insure the proper moisture content, including sprinkling, scarifying, aeration, or drainage.

5.2.5. Testing. Testing to determine moisture-density relations, suitability of materials, and degree of compaction obtained will, except as follows, be performed at no cost to the Contractor, by a Testing Agency retained by the Construction Manager. The Contractor shall coordinate his work with the Construction Manager to permit proper inspection as the work progresses. In the event that tests show that rework is required, the Contractor shall perform the necessary rework at no additional compensation. Additional costs for testing necessary to verify that the rework is in compliance with the specifications shall be borne by the Contractor.

5.2.6. Equipment. Should any equipment not be maintained in satisfactory working order or prove inadequate for obtaining the prescribed results, such equipment shall be repaired or replaced immediately upon notification to the Contractor that the work performed by the equipment is unacceptable and does not meet the requirements of the plans and specifications.

5.2.7. Sheeting, Shoring, and Bracing. The Contractor shall provide and install sheeting, shoring, and bracing as required by California and Federal safety regulations to adequately support banks of excavations for the safety of workmen and protection of the work.

5.2.8. Stockpiling. When excess suitable materials result from the excavation work hereunder, or when excessive moisture in excavated material, construction procedure, or other factors make stockpiling of temporarily unusable materials advisable, the materials shall be placed in temporary stockpiles as approved by the Construction Manager. Different classes of materials shall be stockpiled separately. Stockpile areas shall be self-draining. Stockpile areas shall be prepared and maintained by the Contractor at no additional compensation.

5.2.9. Wasting. Material which is to be wasted shall be wasted in the disposal area indicated on the Drawings. Waste material shall be placed in the disposal area in such manner that the area will be self-draining. Compaction by at least two passes of a heavy roller will be required throughout disposal area to prevent wind and rain erosion. Upon completion of wasting operations in the disposal area, the Contractor shall rough grade and dress the area.

5.2.10 Construction Water. Raw water in the quantities required for the Contractor's use in construction operations, will be available without charge at one location identified by the Construction Manager. The Contractor shall be responsible for providing the equipment for transporting and utilizing the water to meet his construction needs.

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5.3. Excavation

5.3.1. General

5.3.1.1. The Plant Core Area and the Cooling Tower Area within which the substructures and foundations to be constructed under this Contract will be located, consist of a compacted structural fill zone extending to a depth of approximately six (6) feet below existing grade. These compacted structural fill zones have been previously constructed by others and compacted throughout to not less than 95 percent maximum density. Excavation required for the foundations will be located within the horizontal limits of these compacted structural fill zones.

5.3.1.2 Excavation shall consist of the removal and disposition of materials, to the lines, grades, and dimensions shown on the drawings and specified herein.

5.3.1.3. Excess excavated material not classified as unsuitable material, shall be stockpiled for later use by others. No suitable materials shall be wasted without prior approval by the Construction Manager.

5.3.2. Classification of Excavation. All excavation shall be classified as common excavation.

5.3.3. Overexcavation. Except as specified, overexcavation shall be avoided.

5.3.3.1. Should the indicated limits of excavation be reached and the exposed material be found to have unsuitable qualities, the Construction Manager will direct in writing the corrective measures to be taken and an equitable adjustment in Contract price will be made for this additional work.

5.3.3.2. Unauthorized overexcavation and the corrective measures necessitated thereby, will not be considered as a basis for claims by the Contractor for additional payment.

5.3.4. Excavation for Structures

5.3.4.1. Completed excavation for substructures and foundations shall conform to the dimensions and elevations indicated. Undercutting will not be permitted.

5.3.4.2. The Contractor may, within limits approved by the Construction Manager, overexcavate laterally to the extent necessary to properly utilize his equipment. In such case, the lateral overexcavation shall then be corrected to the lines and grades shown, and to specified compaction. If performed, the lateral overexcavation and its later correction shall be performed without additional compensation.

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5.3.4.3. Overexcavation, for whatever reason, which is carried below the indicated bottom of substructure or foundation elevation, shall be backfilled to the indicated elevation in accordance with the following. The bottom of the excavation shall be brought to approximately optimum moisture content for commencement of backfilling, and any loose or disturbed material shall be removed or compacted. Backfilling to the required elevation shall be performed with suitable material at near optimum moisture content, placed in horizontal layers not exceeding 6 inches in uncompacted thickness. Each layer shall be uniformly compacted to not less than 95 percent control density. Finished elevation of backfilled overdepths for substructures and foundations shall be within 0.1 foot of the elevations shown.

5.3.5. Trenching for Piping, Conduit and Duct Bank

5.3.5.1 Excavating for concrete encased duct banks shall be as specified in Paragraph 5.3.4 "Excavation for Structures."

5.3.1.2. Trenches for buried piping and buried conduit shall be overexcavated not less than 4 inches below the required elevation of the bottom of the pipe or conduit, to permit a minimum depth of 4 inches of compacted bedding material beneath the pipe or conduit. Trench widths shall be kept to the minimum necessary for proper installation of the work. Tunneling or undercutting of banks will not be permitted.

5.4. Preparation of Subgrade for Substructures and Foundations. Prior to commencing forming for concrete placement, the bottom of the excavation for each foundation shall be brought to the required elevation and to near optimum moisture content, then at least the upper 6 inches of the bottom of the excavation shall be uniformly compacted to not less than 95 percent of control density. Loose material shall be removed from the compacted surface within the forms before concrete is placed on it.

5.5. Bedding Piping and Conduit. All below-ground drain piping except hot oil drain piping, and all buried electrical conduit, shall be bedded in accordance with the following:

5.5.1. The overexcavated depth of the trench shall be backfilled with material meeting the requirements specified for bedding material. The bedding material shall be placed evenly along the trench bottom and compacted to not less than 95 percent maximum density. The compacted bedding material shall provide a smooth, flat, stone-free surface on which the pipe or conduit will be laid.

5.5.2. Immediately ahead of pipe laying, depressions may be excavated in the bedding material as necessary for make-up of pipe joints. Except for the specified depressions, the pipe or conduit shall rest firmly on the compacted bedding material for as much of its length as practicable.

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5.5.3. The installed piping or conduit shall not be concealed until inspected and released by the Construction Manager. Approved and released piping shall have the specified bedding material placed evenly along both sides of the pipe or conduit in layers not exceeding 6 inches in uncompacted thickness. Each layer of bedding material shall be compacted to not less than 90 percent maximum density before placement of the succeeding layer.

5.5.4. Care shall be taken throughout placing and compacting bedding material to prevent damage or displacement of the piping or conduit, or damage to its protective coating. Any damage to the pipe, conduit or its protective coating shall be repaired to the satisfaction of the Construction Manager, by and at the expense of the Contractor, before proceeding with the work.

5.5.5. Placing and compacting of bedding material shall be continued until the pipe or conduit has a cover of not less than 6 inches of compacted bedding material. Backfilling the remaining trench depth shall be accomplished as specified in Paragraph 5.7., "Backfilling."

5.6. Insulating Buried Piping. All below-ground portions of hot oil drain piping shall be insulated and corrosion-protected with the specified "Protexulate" or approved equal.

5.6.1. The installed piping shall not be concealed from view until inspected and released by the Construction Manager.

5.6.2. The minimum required thickness of insulating material beneath, on the sides and above the protected pipe shall be as specified in paragraph 9.3.3 "Hot Oil Drain Piping," and as detailed on Drawing P8-5.

5.6.3. Installation of the insulating material shall be accomplished in strict conformance with the recommendations of the manufacturer of the insulating material, and under technical direction of a representative of the manufacturer.

5.6.4. If side forms are used, they shall be protected from displacement during placing and compacting the insulating material. The installed insulating material shall leave no voids beneath the pipe.

5.6.5. When the required cover of insulating material has been reached, the remaining depth of the trench shall be backfilled with material previously excavated from the trench. This remaining backfilling shall be accomplished as specified in Paragraph 5.7., "Backfilling."

5.7. Backfilling. Backfilling of overexcavation for substructures and foundations is specified separately in Paragraph 5.3.4.3. Backfilling of substructures, foundations, duct bank, and upper portions of trenches shall be performed in accordance with the following, using suitable materials as defined in Paragraph 5.1.1.

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5.7.1. Backfilling shall not be commenced until the forms have been entirely removed, patching has been completed, trash and debris has been removed, and the Construction Manager's release for backfilling has been given.

5.7.2. Backfill shall be placed in horizontal layers not exceeding 8 inches in uncompacted thickness. Each layer of backfill shall be compacted to not less than 95 percent of control density before placing the succeeding layer.

5.7.3. During placing and compacting operations, the moisture content in the layer being compacted shall be near optimum and shall be uniform throughout the layer.

5.7.4. The backfill shall be brought up evenly to prevent eccentric loading against the substructure or foundation.

5.7.5. The Contractor shall coordinate his placement and compaction operations with the Construction Manager, permitting the necessary inspection as the work progresses.

5.8. Preparation of Surfaces to Receive Base Course. The subgrade of areas to receive aggregate base course shall be brought to finished subgrade elevations and tolerances and to near optimum moisture content. These areas have previously been brought to required grade, rough graded and compacted. The Contractor shall regrade and recompact the areas to receive base course, as necessary to meet the following requirements.

5.8.1. The prepared subgrade shall be compacted to not less than 95 percent maximum density, shall be smooth, and shall not vary more than 0.1 foot above or below the required grade.

5.8.2. Subgrade that does not conform to the above requirements shall be reconstructed to the specified density and tolerances.

5.8.3. Should elapsed time, or a period of precipitation or freezing temperatures occur between completion of an area of subgrade and construction of aggregate base course thereon, the subgrade will be reinspected and, if necessary, shall be reconditioned by the Contractor to conform to the foregoing requirements.

5.9. Grading. After completion of backfilling of substructures and foundations, and before the work will be given final acceptance, the Contractor shall finish grade all areas disturbed by work of this Contract. The graded surfaces shall be reasonably smooth, compacted, and free from irregular surface changes and areas where ponding of runoff could occur. The degree of finish required shall be that ordinarily obtainable from either blade grader or scraper operations. The graded surfaces shall be not more than 0.1 foot above or below the established grades and sections.

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5.10. Tank Mats. The Raw Water Storage Tank and Demineralized Water Tank support mats to be constructed under this Contract shall be of densely compacted granular material, without concrete perimeter rings or slabs. Locations, construction, dimensions and finish elevations shall be as shown on the Drawings and as specified hereinafter.

5.10.1. Materials. Materials for constructing the granular tank mats shall be approved materials meeting the following requirements:

5.10.1.1. Material designated on the Drawings as "crushed stone" shall be obtained off-site and shall be hard, sound, angular pieces of crushed limestone, granite, gneiss, quartzite or other approved material. The material shall be well graded in size within the range of 1/4 to 1 inch, with 100 percent passing a screen having 1-inch openings. Rounded alluvial gravel will not be acceptable.

5.10.1.2. Material designated on the Drawings as "sand" shall be clean, well graded sand, all of which will pass a No. 4 sieve, and be retained on a No. 200 sieve and shall be free from organic matter, trash, frost and frozen material.

5.10.1.3. Oil for treating sand for the "oil-mix sand" layer shall be slow curing liquid asphaltic road material SC-70 meeting AASHTO Specification M-141 or approved equal.

5.10.2. Subgrade Preparation. In preparation for constructing each granular tank mat, the subgrade surface to be occupied by the mat, and for a distance of at least 3 feet outside those limits, shall have surface irregularities corrected and be compacted to not less than 95 percent control density.

5.10.3. Mat Construction. Each granular tank mat shall be constructed to the sections, lines and grades shown on the Drawings, and as follows.

5.10.3.1. Materials shall be placed in horizontal layers not exceeding 6 inches in uncompacted thickness, then compacted throughout before placement of the succeeding layer.

5.10.3.2. Compacting of each layer shall consist of not less than 6 complete coverages by a heavy vibratory roller having a steel compacting drum, or an approved method which produces equivalent compaction. Each pass of the compacting equipment shall overlap the preceding pass. The last 3 coverages of the roller shall be at right angles to the first 3 coverages.

5.10.3.3. The upper layer of each tank mat, indicated on the Drawings as "oil-mix sand," shall be constructed as specified above, but shall be composed of oil-treated sand premixed in a mechanical mixer before placing. At the time of mixing, the sand shall be dry. Oil shall be added to each batch and mixing continued until the batch is uniformly oily.



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6.0 EMBEDDED ITEMS AND MISCELLANEOUS STEEL

This Article of these Specifications covers metal items, other than reinforcement, to be embedded in concrete, and miscellaneous steel including metal handrail and trench covers with their support steel and accessories.

6.1. General

6.1.1. The Contractor shall furnish and install all items to be embedded in concrete construction installed under this Contract, and shall furnish and install all indicated trench and manhole covers, pipe support steel in trenches, handrails, and accessories. These items shall conform to the Drawings and the requirements specified herein.

6.1.2. The following Engineering Standards are included with, and form a part of this Article 6.0, EMBEDDED ITEMS AND MISCELLANEOUS STEEL.

| <u>Standard No.</u> | <u>Date</u> |
|---------------------|-------------|
| DC21.01.1T          | 11/30/79    |
| FB07.02.1           | 4/4/77      |
| FB07.02.3           | 4/1/77      |
| FB07.02.5           | 4/4/77      |
| FB07.03.1           | 4/1/77      |
| FB07.04.1           | 4/4/77      |
| FB07.04.2           | 4/4/77      |
| FB07.04.4           | 4/4/77      |
| FB07.05.1T          | 3/21/80     |
| FB07.05.2           | 4/4/77      |
| FC20.01.9           | 4/4/77      |
| FC20.01.10          | 4/4/77      |
| FC20.02.1           | 4/4/77      |

6.2 Materials

6.2.1. Anchor Bolts. Anchor bolts shall be fabricated and assembled in the shop. Anchor bolts shall be of the sizes, configuration and dimensions indicated on the Drawings.

6.2.1.1. Bar, rod and plate for anchor bolts shall be steel conforming to ASTM A36. Nuts shall be heavy hex pattern conforming to ASTM A307. The Contractor shall submit mill test reports for anchor bolt materials furnished hereunder, in accordance with Article 4.0, DRAWING AND DATA SUBMITTALS.

6.2.1.2. Anchor bolts, nuts and plate washers shall be hot-dip zinc coated (galvanized) in accordance with ASTM A153. Galvanizing shall be performed only after all cutting, threading and other fabricating operations have been completed.

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6.2.1.3. To permit engagement and proper fit after galvanizing, the threads of the nuts and bolts shall have excess zinc removed by being cleaned (chased) with a tap or die, as applicable, before shipment to the jobsite.

6.2.2. Pipe Sleeves. Pipe Sleeves for embedment in concrete shall be in accordance with the Stearns-Roger Engineering Standards.

6.2.3. Settlement Check Plates. Metal plates for determining the extent and nature of future settlement of foundations, shall be circular, of cast brass or bronze, and each shall be provided with a means of being permanently anchored in its concrete foundation. Standard survey benchmark plates will be acceptable.

6.2.4. Conduit. Conduit to be embedded in concrete shall be as specified in Article 10.0, ELECTRICAL WORK.

6.2.5. Continuous Insert. Continuous metal inserts for embedment in manhole walls shall be of the model and dimensions as shown on the drawings.

6.2.6. Structural Shapes and Plate. Structural shapes and plate shall be of structural steel conforming to ASTM A36. Sections and weights for the various uses shall be as shown on the Drawings.

6.2.7. Grating. Grating shall be of metal, and shall conform to the "Metal Bar Grating Manual" of the National Association of Architectural Metal Manufacturers. Except as otherwise indicated on the Drawings, grating shall be Type W-19-4 (1-1/4 inch x 3/16 inch) steel. Where heavier grating is shown on the Drawings, it shall conform to the section and construction indicated for the particular use.

6.2.8. Floor Plate. Floor plate shall be steel, U.S. Steel "Multigrip" or an approved equal, hot-dip galvanized after fabrication. Plate thickness shall be as indicated on the Drawings. The floor plates shall be pressed flat as required after galvanizing.

6.2.9. Welding Electrodes. Welding electrodes shall be Series E70XX conforming to American Welding Society Specification A5.1 or A5.5.

6.2.10. Stud Connectors. Weldable steel stud connectors shall be of the automatic-end-weld type. Application shall be in accordance with the manufacturer's printed instructions.

6.2.11. Drains. Drains and drain piping shall be as specified in Article 9.0., DRAIN PIPING.

6.2.12. Galvanizing. Items designated as "galvanized," shall be hot-dip zinc coated, with coatings conforming to ASTM A123. Galvanizing procedures shall be in accordance with ASTM A143 and A384. Galvanizing shall be performed only after all cutting and welding has been completed on the items.

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6.2.13. Handrail. Handrail shall conform to Stearns-Roger Engineering Standard No. DC21.01.1T.

6.2.14. Guard Posts. Guard posts shall be of 4" Schedule 40 ungalvanized pipe conforming to ASTM A53 or A106. Each post shall be a single, unspliced piece, of the required total length.

6.2.15. Concrete. Concrete for setting and filling guard posts shall be Class CS or BS, conforming to Article 7.0, CONCRETE WORK.

6.3. Fabrication.

6.3.1. General. Material shall be fabricated and assembled in the shop to the maximum extent practicable. Field welding shall be permitted only where indicated on the Contractor's approved shop Drawings.

6.3.2. Connections. Shop connections shall be welded if feasible. Welding of connections, both shop and field, shall be performed in accordance with the approved drawings and the requirements of AWS D1.1 "Structural Welding Code."

6.3.3. Trench Covers. Trench covers shall be of grating, of the weight and section indicated on the Drawings for the particular location. Where indicated, the grating shall have a top surface of steel floor plate, attached by welding. Bar ends at trench edges and cut openings shall be banded.

6.3.3.1 Grating sections shall be fabricated such that when field installation is complete, not more than 1/4-inch clearance shall exist between adjacent sections of grating and curb angles and kickplate.

6.3.3.2. Holes which are shown and dimensioned on the Drawings shall be cut and banded in the fabricator's shop. Grating shall be split around holes into easily removable sections. Banding shall be either accomplished with a bar of the same depth as the grating bearing bars or 1/4-inch plate projecting 4 inches above the top of the grating as shown on the Drawings. Holes not specifically located and dimensioned on the Engineering Drawings will be cut and banded in the field by others.

6.3.3.3 Trench covers shall be hot-dip galvanized after all cutting, welding and other fabrication operations on them have been completed.

6.3.3.4 The Contractor shall be responsible for all errors in detailing and fabrication and for correct fitting and attachment of structural members.

6.4 Shop Welding

6.4.1. Welding and Welding Operators. Production welding performed under this Contract shall be performed in accordance with AWS D1.1, applicable AISC Standards and Specifications, and the approved shop drawings. Production

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welding shall be performed only by welding operators who have qualified in accordance with AWS D1.1. Proof of such qualification shall be furnished to the Construction Manager in accordance with Standard FJ60.60 and Article 4.0, DRAWING AND DATA SUBMITTALS.

6.4.2. Weld Inspection Personnel. It shall be the responsibility of the Contractor to assure that weld preparation and welds are inspected in the fabricator's shop and found satisfactory before shipment to the field. Inspections shall be at the Contractor's expense.

6.4.2.1 Visual inspection for correct joint preparation and fit-up before release for welding, and visual inspection of completed welds, shall be performed by a qualified welding inspector acceptable to the Construction Manager. Evidence of the qualifications of the proposed inspector shall be furnished to the Construction Manager not less than 4 weeks prior to start of production welding.

6.4.3 Care and Use of Low-Hydrogen Electrodes. The Contractor shall ensure that his fabricator provides and uses acceptable electric ovens and complies in all respects with AWS D1.1 in the pretreatment, use and care of the low-hydrogen electrodes used hereunder.

6.4.4. Levels of Inspection. All welds, both shop and field, performed on the structural and miscellaneous steel for this Contract shall, as a minimum, receive inspection in accordance with the following.

6.4.4.1. Welds, regardless of size, type and location, shall be visually inspected for proper joint preparation and fit-up before release for welding.

6.4.4.2. Completed welds shall be visually inspected for compliance with AWS D1.1 and the approved shop drawings.

6.4.5. Minimum Weld Quality Requirements. Welds shall meet the visual workmanship and freedom from defects requirements of AWS D1.1

6.4.6. Correction of Defects. Unacceptable defects in shop welds which are disclosed by inspection shall be repaired and proved acceptable by reinspection, using the appropriate inspection method or methods, before shipment to the field.

6.5. Field Welding

6.5.1. Field welding of structural steel shall not be permitted unless shown on the approved drawings, or specifically approved for the particular instance, by the Construction Manager.

6.5.2. Prior to use of welders on the work, the Contractor shall submit qualification test reports for each welder for each class of work to be done by that welder, in accordance with the governing codes. Submittal shall be in accordance with Engineering Standard FJ60.60, attached, and Article 4.0, DRAWING AND DATA SUBMITTALS.

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6.5.3. Field welding of structural steel shall be performed only by welders who have qualified in accordance with AWS D1.1.

6.5.4. Field welding of structural steel, where permitted, shall be performed in accordance with the requirements shown on the approved drawings and the requirements of AWS D1.1 "Structural Welding Code" and addenda thereto, and the requirements of AISC "Specification for Design, Fabrication and Erection of Structural Steel for Buildings."

6.5.5. The Contractor shall provide and use acceptable electric ovens and shall comply in all respects with AWS D1.1 in the pretreatment, use and care of the low-hydrogen electrodes used hereunder.

6.5.6. Field Weld Inspection. Throughout erection of structural and miscellaneous steel, field welds shall be visually inspected for proper joint preparation and fit-up before release for welding, and shall be visually inspected after completion for compliance with the approved drawings and the Codes and Standards referenced above.

6.5.6.1 Field weld inspection shall be performed by and at the expense of the Contractor, utilizing a qualified Contractor-furnished welding inspector acceptable to the Construction Manager. Evidence of the qualifications of the proposed inspector or inspectors shall be furnished to the Construction Manager not less than 4 weeks prior to start of field erection.

6.5.6.2. Unacceptable defects in field welds disclosed by inspection shall be repaired and proved acceptable by reinspection.

6.6. Surface Preparation and Prime Painting. Surface preparation and prime painting of steel items in the fabricator's shop, and touch-up of those items in the field, shall be in accordance with Article 11.0. PRIME AND TOUCH-UP PAINTING.

6.7. Setting Embedded Items

6.7.1. Anchor Bolts. Locations of the anchor bolts in each foundation shall be in accordance with the Drawings. Setting of anchor bolts shall be accomplished within the tolerances prescribed by the AISC "Code of Standard Practice" and as follows:

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6.7.1.1. The positions of anchor bolts within each group shall be established and maintained during setting by the use of Contractor-furnished templates.

6.7.1.2. The clear projection of the anchor bolts above the floated but ungrouted top of concrete (TOC) shall be as dimensioned on the Drawings, within tolerances of -0 inch, +1/2 inch, except that all bolt ends within each group shall be at the same elevation.

6.7.1.3. After setting an anchor bolt group to the required accuracy, the bolts and template shall be protected from displacement, and the template shall not be removed until that portion of the concrete has attained an age of at least 18 hours. All exposed threads shall then be wire brushed to remove all traces of concrete.

6.7.1.4. Field welding to anchor bolts will not be permitted.

6.7.2. Pipe Sleeves. Pipe sleeves shall be sized and located as shown on the Drawings. Pipe sleeves shall be protected against entry of concrete, and shall be accurately positioned in the forms, secured against displacement during concreting. Each pipe sleeve shall finish flush with both faces of the concrete penetrated. After removal of the forms, all foreign material shall be cleaned from the interior of each pipe sleeve.

6.7.3. Weld Plates, Curb Angles and Trench Angles. Weld plates, curb angles, trench angles and other assemblies to be embedded in concrete shall be accurately positioned and oriented in accordance with the Drawings and shall, unless otherwise indicated, finish flush with the adjacent concrete surfaces. Each shall be securely anchored in the concrete.

6.7.4. Guard Posts. Guard posts shall be located and installed where and as shown on the Drawings. Each post shall be set in, and filled with, Class CS or BS concrete. Setting depth and projection above finish grade shall be not less than shown, with post tops in each group finishing at approximately the same elevation. The concrete around each post and the concrete inside each post shall be slightly domed to prevent collection of water.

6.7.5. Settlement Check Plates. The foundation settlement check plates shall be installed at the locations indicated on the Drawings, with each plate centered within + 1/2 inch of its dimensioned centerpoint. Each plate shall finish level and slightly above the concrete surface where located, and shall be permanently anchored. Stamping of the check plates will be performed by others.

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6.8. Shop Drawings The Contractor shall submit shop drawings of embedded items, metal trench covers with supports, handrail, and other miscellaneous steel items to the Construction Manager for review and comment. Review of such drawings shall not relieve the Contractor of the responsibility for any error which may exist, and the Contractor shall be responsible for all dimensions, detail design, and satisfactory fabrication of the work. Material shall not be fabricated or delivered to the jobsite before the Construction Manager's review of the shop drawings has been completed and the indicated revisions, if any, have been made.

6.8.1. The drawings shall include all shop and fabrication details, including cuts, copes, connections, holes, bolts and welds. All welds shall be in accordance with the shop drawings. The drawings shall show size, length and type of each weld.

6.8.2. Before commencing detailing, the Contractor shall submit for approval the piece-mark system which he proposes to use. The system shall indicate the location of each piece within its substructure or foundation, either in the piece-mark or with appropriate notation on the detail sheet. The piece mark shall also identify the sheet on which the piece is detailed.

6.8.3. Submittals shall in addition, comply with the requirements of Article 4.0., DRAWINGS AND DATA SUBMITTALS.

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7.0. CONCRETE WORK

This Article shall govern all concrete work of this Contract, except as noted. For additional requirements applicable to the T.S. Tank Foundation and Containment Basin, see Article 8.0, TS TANK FOUNDATION AND CONTAINMENT BASIN.

7.1. General

7.1.1. Concrete Supply. The Contractor shall arrange for his own concrete supply, and shall be responsible for his concrete supply meeting specified requirements, including, but not limited to, strength requirements, cement type and content, aggregate sizes and slump.

7.1.2. Sampling and Testing. Sampling and testing as necessary to determine specification compliance of concrete materials, concrete at point of placement, and hardened concrete in-place, will be performed by a Testing Agency retained by the Construction Manager, as specified in Paragraph 7.5., "Sampling, Testing and Control."

7.1.3. Scheduling. The Contractor shall be solely responsible for scheduling the class or classes of concrete needed, and the start, duration and rate of concrete deliveries necessary to meet Contractor's construction needs.

7.1.4. Design Mixes. The Contractor shall furnish the Construction Manager three (3) copies of his concrete supplier's design mix applicable to each class of concrete to be furnished. Concrete placed in the work of this Contract shall conform to its design mix. Following submittal of design mixes, the sources of materials, type of cement, and mix proportions shall not be changed without the Construction Manager's prior approval. With the design mixes, the Contractor shall submit certification from an approved testing laboratory that (1) the aggregate which will be used in the concrete will not create an alkali-aggregate reaction and (2) that the mix will produce the concrete strength specified. Such certification shall be based upon chemical testing, petrographic analysis of aggregate samples, or other methods acceptable to the Construction Manager.

7.1.5. Classes of Concrete and Usage. The classes of concrete which will be required in the work of this Contract are specified hereinafter. Usage of the various classes of concrete in the work shall be as shown on the Drawings.

7.1.6. Duct Bank. Concrete encasement of electrical conduit comprising the underground duct bank shall not be commenced until the installed conduits, support and anchoring, and the reinforcing steel, have been inspected by the Construction Manager and release given for concreting.

7.1.6.1. The conduits and their installation is covered in Article 10.0, ELECTRICAL WORK and on the Drawings. Attention is particularly directed to Sheet E1-3 of the Drawings.

7.1.6.2. Concrete work for encasing the duct bank is covered in this Article 7.0., CONCRETE WORK.



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7.2. Materials Other Than Concrete

7.2.1. Admixtures. Admixtures, when required, shall conform to the following:

7.2.1.1. Air-Entraining Admixture: ASTM C270.

7.2.1.2. Water-Reducing Admixture: ASTM C494 Type A.

7.2.1.3. Set-Retarding Admixture: ASTM C494 Type B.

7.2.2. Reinforcing

7.2.2.1. Reinforcing bars shall be new deformed billet steel bars conforming to ASTM A615 Grade 60, except for ties, stirrups and No. 4 bars, which shall conform to ASTM A615 Grade 40 or Grade 60.

7.2.2.2. Reinforcing mesh shall be welded wire fabric conforming to ASTM A185, mesh and gage as called for on the Drawings.

7.2.3. Reinforcement Accessories. Reinforcement accessories shall be free from flake rust, scale, grease, clay, and other coatings or foreign substances which would reduce the bonding qualities. Materials shall be as follows:

7.2.3.1. Tie wire shall be annealed wire, not less than No. 17 gage, of suitable quality for securing reinforcement in place.

7.2.3.2. Bar supports shall be standard bright basic wire sufficiently heavy to properly carry the steel they support, or shall be precast concrete blocks. Wire pieces and number of supports shall conform to specifications for placing accessories as published by the Concrete Reinforcing Steel Institute.

7.2.4. Forms. Material for form work shall consist of wood, metal or other approved material, free from surface defects which might affect the finished concrete. The type of material is optional with the Contractor unless specific requirements are indicated on the Drawings. Contact forms for exposed surfaces shall be plywood, metal or other approved smooth surface material.

7.2.4.1. Internal form ties shall be factory-fabricated removable or snap-off ties of approved design, fixed or adjustable in length, and shall be free from devices that will leave a hole larger than 1 inch in diameter in the surface of the concrete. The portion of the tie remaining in the concrete after the removal of the exterior parts shall not project beyond the surface of the concrete and shall be at least 1 inch back from any surface that will be exposed to view in the finished work. Internal ties fabricated at the jobsite shall not be used.

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7.2.5. Expansion Joint Materials. Materials for expansion joints shall meet the following requirements:

7.2.5.1. Expansion Joint Fillers: Preformed resilient nonbituminous type conforming to ASTM D1752, Type I.

7.2.5.2. Sealing Compound: Hot-poured elastic type conforming to ASTM D1190.

7.2.5.3. Calking Compound: An approved commercial two-component polysulfide base calking compound. Gun-grade shall be used for vertical joints.

7.2.5.4. Primer: As recommended by the manufacturer of the calking compound.

7.2.5.5. Backing Rod: Round, preformed foamed polyurethane rod having a diameter not less than 1-1/2 times the width of the joint in which it is to be installed.

7.2.6. Form Oil. Form oil shall be a commercial form oil of satisfactory and proven performance that will prevent adhesion of the concrete to the forms, but will not penetrate, stain or adversely affect concrete surfaces. The form oil shall not impede wetting of surfaces to be damp cured nor impair subsequent surface treatments which depend upon bond or adhesion.

7.2.7. Curing Materials. Curing materials shall meet the following requirements, as applicable:

7.2.7.1. Waterproof Paper: ASTM Standard C171, regular or white.

7.2.7.2. Mats: Commercial curing mats of cloth or canvas.

7.2.7.3. Burlap: Commercial Standard.

7.2.7.4. Membrane-Forming Curing Compound: ASTM Standard C309, Type 1 or ID Class B. Wax base or wax-resin base curing compounds will not be permitted.

7.2.7.5. Polyethylene Sheeting: ASTM C171.

7.2.7.6. Polyethylene-Coated Burlap: ASTM C171.

7.2.8. Water Stops. Except where the use of metal water stops are indicated on the Drawings, water stops shall be of extruded polyvinyl-chloride and of the size and cross-sectional shape indicated. Water stops shall be Servicized Durajoint as manufactured by W.R. Grace & Co., or an approved equal.

7.2.9. Perimeter Insulation. Foundation perimeter and slab insulation shall be foamed glass insulation board having a density of not less than 8.5 pounds per cubic foot. The material shall be "FOAMGLAS H/LB" as manufactured by Pittsburg Corning, or a Construction Manager approved equal.

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7.2.10. Concrete Tinting Agent. The concrete tinting agent for use under this Contract shall be "Colorcron," tile red color, as manufactured by Master Builders, or a Contracting Officer approved equal mineral base red dusting compound for tinting fresh concrete.

7.3. Concrete Requirements

7.3.1. Regular Concrete. Regular concrete placed hereunder shall be batched, mixed and delivered in accordance with ASTM C94, "Ready-Mixed Concrete", Alternative 2, as further defined below, and with this Specification:

7.3.1.1. Aggregate shall conform to ASTM C33. Coarse aggregate shall be No. 67 (3/4 inch to No. 4 sieve).

7.3.1.2. Cement shall be an approved brand of Portland cement conforming to ASTM C150 Type II, low-alkali. A single brand of cement shall be used throughout the work.

7.3.1.3. Water shall conform to the requirements of Paragraph 4.1.3. of ASTM C94.

7.3.2. Class and Strength. The following classes and strengths of concrete will be required in the work:

| <u>Class*</u> | <u>Max. Aggregate Size (Inches)</u> | <u>Minimum Allowable Compressive Strength at 28 days (psi)</u> |
|---------------|-------------------------------------|--|
| BS            | 3/4                                 | 4000   |
| CS            | 3/4                                 | 3000   |

7.3.3. Air Entrainment. All concrete which will remain exposed to the weather in the finished work, such as perimeter piers and grade beams, exterior slabs, trench covers, and manholes, shall contain an air entraining admixture which produces concrete containing the following air content at the point of discharge from the transport vehicle: (Concrete for floor slabs which will be interior to buildings erected by others, shall not be air-entrained.)

| <u>Maximum Aggregate Size (Inches)</u> | <u>Total Air Content (Percentage by Volume)</u> |
|--|---|
| 3/4                                    | 5 to 7  |

---

\*An "A" suffix following the concrete class designation shall indicate air entrainment is required. Such suffix shall, when applicable, be part of the class designations in orders for concrete issued by the Contractor.

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7.3.4. Water Reducing Admixture. A water reducing admixture may be used in Classes BS and CS concrete. Usage shall be in accordance with the recommendations of the manufacturer of the admixture.

7.3.5. Set-Retarding Admixture. Set-retarding admixtures shall be used only when requested by the Contractor and approved for the particular use, in writing, by the Contracting Officer.

7.3.6. Slump. At the point of discharge from the transport vehicle, all concrete shall have slumps within the limits of 4 inches maximum and 2 inches minimum.

7.4. Mixing and Delivery.

7.4.1. Truck Mixers. Truck mixers shall conform to the applicable requirements of ASTM C94.

7.4.2. Cold Weather Concreting. Concrete mixed and delivered when the mean ambient temperature is 40 degrees F or less shall be mixed and delivered in accordance with the American Concrete Institute Standard ACI 306 "Recommended Practice for Cold Weather Concreting."

7.4.3. Hot Weather Concreting. Concrete mixed and delivered when the mean ambient temperature (as defined in ACI 301, Section 8.4.3) would be detrimental to concrete, shall be mixed and delivered in accordance with the American Concrete Institute Standard ACI 305 "Recommended Practice for Hot-Weather Concreting." Concrete temperatures at time of discharge from the truck shall not exceed 90 degrees F.

7.4.4. Contractor Responsibility. The Contractor shall bear complete responsibility for the delivery of satisfactory concrete conforming to the requirements of this Specification. The Contractor shall effect such alterations in methods and equipment, and furnish new materials and concrete as may be required, when tests indicate that materials or concrete as delivered, did not meet Specification requirements.

7.4.5. Delivery Tickets

7.4.5.1. Each load of concrete shall be accompanied by a delivery ticket, in triplicate. After the concrete has been discharged or the truck has been released, one copy of each waybill shall be grouped with other waybills for that pour, and shall be delivered to the Construction Manager within 24 hours.

7.4.5.2. Each waybill shall show the information prescribed by Article 15.1 of ASTM C94 and in addition, shall show the information listed under Article 15.2 of ASTM C94.

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7.4.6. Allowable Time Interval Between Mixing and Placing. Concrete shall be placed in the forms within forty-five (45) minutes after the addition of water to the cement and aggregate when hot weather conditions prevail. At other times, the time limit shall be ninety (90) minutes. Discharge of the concrete shall be completed within the time limits specified above, and then only if the initial set has not been attained in the concrete.

7.5. Sampling, Testing and Control

7.5.1. Testing Agency

7.5.1.1. Throughout this Contract, testing necessary to verify suitability of materials, determine quality of delivered concrete, and making and testing control cylinders, will be performed by the Testing Agency retained by the Construction Manager.

7.5.1.2. The Contractor shall permit these Testing Agency personnel unrestricted access to delivered or stored materials, batching and mixing facilities, and transport equipment, and shall provide such cooperation and assistance as may be requested by them.

7.5.1.3. The Construction Manager will notify the Contractor, immediately upon detection, of any concrete having excessive slump, or otherwise not meeting Specification requirements. The Contractor shall be solely responsible for any materials used in the work that do not comply with the Specifications.

7.5.2. Sampling and Test Methods

7.5.2.1. Slump Testing. Slump testing of delivered concrete will be in accordance with ASTM C143.

7.5.2.2. Entrained Air Testing. Determination of the air content of freshly mixed air-entrained concrete will be performed in accordance with ASTM C173, C231 or C138.

7.5.2.3. Strength Tests During the Work. Two sets of three cylinders for test purposes will be taken from each 100 cubic yards or fraction thereof, or each day's pour, whichever is less, of each class of concrete placed. Test specimens will be made and cured in accordance with ASTM C31. Cylinders will be tested in accordance with ASTM C39. One set of cylinders will be tested at 7 days and the second set at 28 days. If the average of three consecutive strength tests of the specimens cured for 7 days under laboratory controls for any portion of the work falls below 70 percent of the minimum allowable compressive strength of 28 days required for the class of concrete used in that portion, or any one strength test is 500 psi less than this value, the Contractor will be notified by the Construction Manager.

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7.5.2.4. Tests of Hardened Concrete In, or Removed From Structures. Where the results of the strength tests of the control specimens indicate the concrete as placed does not meet Specification requirements, or where there is other evidence that the quality of the concrete is below Specification requirements, tests will be performed on cores conforming to ASTM C42. Where the test results indicate that the in-place concrete does not meet Specification requirements, the cost of the tests and such corrective measures as may be prescribed, including additional curing or removal and replacement of the defective work, shall be borne by the Contractor. If the tests indicate that the concrete as placed meets Specification requirements, the cost of the tests will be borne by the Contracting Officer.

7.5.2.5. Tests for Uniformity of Concrete. The Construction Manager may, as deemed necessary, require tests for uniformity of concrete in accordance with the applicable requirements of ASTM C94.

7.6. Form Installation

7.6.1. General. Forms, complete with appurtenances, shall be constructed to conform to shape, form, line and required grade. The forms shall be maintained sufficiently rigid to prevent deformation under load in order that deflection under the weight of wet concrete will not exceed 1/8-inch. Studs shall be closely spaced to prevent deflection of form material and excessive waviness in the surface of exposed concrete.

7.6.2. Responsibility. The Contractor shall be responsible for design, adequacy, and safety of formwork, the design of which is subject to the Construction Manager's review. Completed forms, in place, shall be inspected by the Construction Manager prior to concrete placement, however, these inspections will not relieve the Contractor of the entire responsibility for the adequacy of the formwork. All formwork design shall conform to ACI 347, "Recommended Practice for Concrete Formwork."

7.6.3. Construction

7.6.3.1. Forms shall be sufficiently tight to prevent leakage of mortar.

7.6.3.2. Forms shall be properly braced or tied together so as to maintain the desired position and shape during and after placing concrete.

7.6.3.3. Forms shall be designed and constructed for removal without damage to the concrete.

7.6.3.4. Openings shall be provided as necessary to permit placing concrete in a manner which will prevent segregation or accumulations of hardened concrete on reinforcement above the concrete level.

7.6.3.5. Knot holes and broken places which would come into contact with concrete shall be covered with metal patches.

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7.6.3.6. Temporary openings shall be provided for adequate cleaning and inspection of formwork.

7.6.3.7. Where indicated, suitable stripping shall be placed in forms to shape edges or surfaces of concrete. Exposed corners shall be chamfered 3/4-inch unless noted otherwise.

7.6.4. Surface Treatment. Before any reinforcement is placed, forms shall be oiled.

7.6.5. Setting Embedded Items. Prior to placement of concrete and during formwork operations, the Contractor shall locate and set all items to be placed in the forms. Embedded items and their placement shall be in accordance with the Drawings and Article 6.0., EMBEDDED ITEMS AND MISCELLANEOUS STEEL.

7.6.6. Inspection. Inspection of formwork, reinforcing and embedded items shall have been completed and approval given before the forms are closed or concrete ordered for placement therein. The Contractor shall, in each case, allow the Construction Manager a minimum of eight (8) working hours notice prior to anticipated start of pour to permit sufficient time for such inspection.

7.6.7. Removal of Forms

7.6.7.1. The minimum waiting period before stripping of forms shall be 24 hours, however, stripping of forms after the lapse of this minimum 24 hour period shall not relieve the Contractor of responsibility for the safety of or damage to the work.

7.6.7.2. Tie-rod clamps to be removed from the forms may be loosened 24 hours after concrete placement, except as otherwise specified herein. Form ties, except those required to hold the forms in place, may be removed at that time.

7.6.7.3. Forms left in place for moist curing shall not be loosened for the entire curing period.

7.7. Reinforcing Steel Installation

7.7.1. General

7.7.1.1. Reinforcing steel shall be detailed, fabricated, and furnished by the Contractor. Reinforcing materials are specified in Paragraph 7.2.2. The Contractor shall furnish detail fabrication and erection drawings and certified copies of mill test reports for the reinforcing steel furnished hereunder. Submittals shall conform to Article 4.0, DRAWING AND DATA SUBMITTALS.

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7.7.1.2. Reinforcing steel delivered to the site shall be stored off the ground. Before placement, reinforcing shall be thoroughly cleaned of loose or flaky rust, mill scale, or coatings of any foreign substance that would reduce or destroy the bond. Bars reduced in section shall not be used. In the event of a substantial work delay, previously placed reinforcing steel left for future bonding shall be inspected and cleaned. Reinforcing steel shall not be bent or straightened in a manner injurious to the steel, and bars with kinks or bends not shown on the Drawings shall not be used.

7.7.1.3. The use of heat to bend or straighten reinforcing steel shall not be permitted. Field splices, if required, shall be made with a wire-tied lap of not less than the number of diameters indicated in ACI 318 for the proper class of splice as shown on the Drawings. Field splices not indicated on the Drawings will not be permitted.

7.7.1.4. The clear distance between parallel bars shall be not less than the nominal diameter of the bars, 1-1/3 times the maximum size of the coarse aggregate, or 1 inch, whichever is greater.

7.7.1.5. Reinforcing steel shall not be welded except where shown on the approved Drawings.

7.7.1.6 Reinforcing mesh shall be lapped so that the distance between outermost cross wires of each sheet is not less than the spacing of the wires parallel to the lap plus 2 inches. The lap shall be tied with wire.

7.7.2 Design and Details. Unless otherwise indicated, the design of reinforced concrete structures will conform to ACI 318, and the details of reinforcing steel will conform to ACI 315. Unless otherwise indicated, construction shall conform to the following requirements:

7.7.3. Concrete Covering Over Steel Reinforcement. The thickness of the concrete covering over steel reinforcement shall not be less than the diameter of the round bars and in the following specific instances, not less than specified below:

|   |                                   |
|---|-----------------------------------|
| Footings, slabs on grade, and structural members in which concrete is deposited against the ground: | 3 inches between steel and ground |
|---|-----------------------------------|

Concrete surfaces which, after removal of forms, are exposed to weather or backfill:

|                            |          |
|----------------------------|----------|
| For bars No. 6 and larger: | 2 inches |
|----------------------------|----------|

|                             |              |
|-----------------------------|--------------|
| For bars No. 5 and smaller: | 1-1/2 inches |
|-----------------------------|--------------|

|   |              |
|---|--------------|
| Where surfaces are not directly exposed to weather or backfill: | 1-1/2 inches |
|---|--------------|



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7.7.4. Supports. Reinforcing shall be accurately placed and securely tied at intersections and spliced with black annealed wire sufficiently to prevent displacement by construction loads or the placing of concrete. Reinforcement shall be securely held in position during the placing of concrete by spacers, chairs, or other approved supports. Supports shall be galvanized when the finished concrete is to be exposed. Wire tie-ends shall point away from the form. Unless otherwise indicated, the number, type and spacing of supports shall conform to ACI 315. Tack welding of reinforcing steel assemblies will not be permitted. Reinforcing for slabs on grade, and footing reinforcement, shall be supported by precast concrete blocks. The blocks shall be spaced at intervals as required by the size of reinforcement in order to maintain the reinforcement at the specified minimum height above the underside of slab or footing.

7.7.5. Accessories. Accessories such as bar supports, spacers and ties shall be furnished and arranged in accordance with the CRSI "Manual of Standard Practice for Reinforced Concrete Construction."

7.8. Preparation for Placing Concrete

7.8.1. Water shall be removed from excavations before concrete is deposited. Any flow of water shall be diverted through side drains, and shall be removed without flowing over freshly deposited concrete. Hardened concrete, debris, and foreign materials shall be removed from the interior of forms, and from inner surfaces of conveying equipment.

7.8.2. Reinforcement shall be secured in position, inspected and approved before depositing concrete. Runways shall be provided for wheeled concrete-handling equipment. In addition, the equipment shall not be wheeled over reinforcement, nor shall runways be supported on reinforcement.

7.8.3. The subgrade for mat pours shall be finished to the exact section of the bottom of the slab or mat, and shall be maintained in a smooth, compacted condition, in conformity with the required section and grade until the concrete is placed. Where concrete is placed directly on earth, the subgrade shall be clean and thoroughly moistened, but not muddy, at the time the concrete is deposited.

7.8.4. Placement of concrete shall not be commenced until reinforcement and items set into the forms have been inspected by the Construction Manager.

7.9. Placing Concrete

7.9.1. General

7.9.1.1. Concrete shall be handled from transport vehicle to place of final deposit in a continuous manner, as rapidly as practicable, and without segregation or loss in ingredients, until the approved unit of operation is completed.

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7.9.1.2. Concrete that has attained its initial set or otherwise becomes unsuitable for placement, as determined in accordance with ASTM C94, shall not be placed in the work. Placement will not be permitted when the sun, heat, wind or limitations of facilities furnished by the Contractor prevent proper finishing and curing of the concrete.

7.9.1.3. Concrete shall be placed in the forms in uniform layers as nearly as practicable in final position. Forms or reinforcement splashed with concrete shall be cleaned in advance of pouring subsequent lifts. Immediately after placing, concrete shall be compacted by thorough agitation in an approved manner. Tapping or other external vibration of forms shall not be permitted.

7.9.1.4. Concrete shall be placed in the forms in a planned sequence to avoid cold joints. Concrete shall not be allowed to drop freely more than 5 feet in unexposed work nor more than 3 feet in exposed work. Where greater drops are required, a tremie or other approved means shall be employed. The discharge of the tremies shall be controlled in order that the concrete may be effectively compacted into horizontal layers not more than 24 inches thick, and the spacing of tremies shall be such that segregation does not occur. Concrete to receive other construction shall be screeded to the necessary level to avoid excessive shimming or grouting.

7.9.2. Cold-Weather Requirements. Concrete shall not be placed when the ambient temperature is 40 degrees F or less, unless special precautions are taken. If necessary to place concrete under conditions of 40 degrees F or less, placement and protection methods shall be in accordance with ACI 306 "Recommended Practice for Cold Weather Concreting." Concrete damaged by freezing shall be removed and replaced by the Contractor.

7.9.3. Hot-Weather Requirements. In hot weather, concrete shall be placed in accordance with the recommendations of ACI 305.

7.9.4. Joints

7.9.4.1. Construction Joints. Work shall be planned so as to require a minimum of field located construction joints. The type, number and locations of these construction joints shall be as shown on the Drawings. Properly designed shear keys shall be provided where indicated on the Drawings. Reinforcement shall be continued through construction joints.

7.9.4.2. Expansion and Contraction Joints. Expansion and contraction joints shall be installed as shown on the Drawings.

7.9.4.3. Control Joints. Large flat areas of concrete such as slabs shall be constructed in sections to minimize and control shrinkage cracks. The maximum horizontal dimension of slab or mat sections placed at one time shall be as shown on the Drawings. The closing section between any two adjacent sections shall be placed not sooner than seven (7) days after the

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most recent of the adjacent sections. Control joints shown on the Drawings may be either tooled or saw cut to the depth shown on the Drawings, provided the saw cut is made within 24 hours after the concrete is placed, and also provided that the concrete to be saw-cut will not be subjected to temperatures greater than 80 degrees F during the first 24 hours.

7.9.5. Waterstops. Where indicated on the Drawings, waterstops shall be installed in joints to provide a continuous diaphragm. Splices shall be made in accordance with the manufacturer's recommendations. For special service metal waterstop, see Paragraph 8.4.1. Waterstops shall be accurately positioned, and during placing of concrete, shall be protected from damage and displacement.

7.9.6. Placing Methods. Concrete shall be conveyed and placed as rapidly as practicable, either by manual or mechanical means that will prevent segregation or loss of ingredients. Aluminum shall not be used to convey or place concrete. Concrete shall be deposited continuously in horizontal layers, in a manner to prevent displacing reinforcement and accumulation of concrete on the forms or the reinforcement above the level of fresh concrete.

7.9.6.1. Chuting. Chutes shall be of rounded cross-section to avoid accumulation of concrete in corners. The slopes of chutes shall be steep enough to permit flow without requiring a slump greater than that specified or required for placement (slope usually 1 vertical to 2 or 2-1/2 horizontal). In intermittent operations when free movement of concrete in the chute is not possible, the concrete shall be discharged into approved hoppers. Chutes and hoppers shall be thoroughly cleaned before and after each run. Wash water debris shall be discharged outside of forms.

7.9.6.2. Pumping. Where concrete is conveyed and placed by mechanically applied pressure, the equipment shall be suitable in kind and adequate in capacity for the work. The operation of the pump shall be such that a continuous stream of concrete without air pockets is produced. When pumping is completed, the concrete remaining in the pipeline shall be ejected in such manner that there will be no contamination of the concrete or separation of the ingredients. After this operation, the entire equipment shall be thoroughly cleaned.

7.9.7. Consolidation. During and immediately after placing, concrete shall be worked to provide thorough consolidation around all reinforcement, embedded items, and into corners of forms. Consolidation shall be accomplished by the use of high frequency internal vibrators. The type and operation of vibrators will be subject to approval by the Construction Manager. Consolidation procedure shall conform generally to ACI 304 and the following:

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7.9.7.1. Placement of Layers. Concrete layers shall not exceed 2 feet in thickness. Each layer shall be thoroughly consolidated before the succeeding layer is placed. Timing of placement shall be such that each succeeding layer is placed before the preceding layer has reached its initial set.

7.9.7.2. Extent of Vibration. Vibration shall extend through the entire depth of each new layer and several inches into the preceding layer. Vibration shall be applied to the point of deposit and uniformly throughout the freshly placed concrete.

7.9.7.3. Duration of Vibration. Vibration shall be performed such as to secure the desired results within 5 to 15 seconds at points 18 to 30 inches apart rather than vibrating for longer periods at wider intervals. To prevent segregation of mix, vibration shall be continued only long enough to accomplish thorough consolidation and complete embedment of the reinforcement and fixtures.

7.9.7.4. Limitations. Vibrators shall not be used as a means of moving concrete inside the forms. This action shall be accomplished by correct initial placement augmented by the use of hand shovels. The Contractor shall provide a sufficient number of vibrators so that consolidation can be accomplished immediately after the concrete has been deposited in the forms.

7.10. Bonding Joints or Resuming Placement on Hardened Concrete

7.10.1. Concrete on which other concrete is placed shall be either still plastic or thoroughly hardened, but not in a semi-hardened state that may be disturbed or weakened by the added load and the jarring.

7.10.2. To provide bond between successive lifts of concrete, the exposed surface of the hardened concrete shall be cleaned and roughened, without loosening the embedded aggregate. Concrete surfaces on which other concrete is to be placed shall be kept wet for the 24 hours previous to the pour.

7.10.3. Brooms or air-water jets shall be used after the start of initial setting of the cement. Sandblasting or air-tooling shall be employed after the concrete has hardened. The surface film and laitance or diluted paste shall be removed and a reasonably high percentage of aggregate exposed.

7.10.4. The old surface shall be clean, damp and free from standing pools of water when the new concrete is placed.

7.10.5. Batches of neat cement or of mortar having about the same proportion of cement to sand as used in the concrete, shall be deposited and well brushed in, just ahead of the new concrete.

7.11. Repairing and Patching Surfaces. Concrete surfaces shall be repaired immediately after form removal, in accordance with the following procedure:

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7.11.1. Holes left by tie rods shall be hammer-packed with stiff, dry-pack mortar of the same materials as, but somewhat leaner than, the concrete.

7.11.2. Honeycombed areas shall be removed to a depth at which sound concrete is exposed. Cut-out areas shall be straight at right angles to the surface, and filled with concrete matching that of the structure.

7.11.3. Spalled and pitted areas resulting from concrete sticking to the forms shall be chipped back to obtain a good mechanical bond, undercut at the edges, and repaired with mortar matching the concrete.

7.11.4. Rough areas and high spots shall be ground flush and smooth.

7.11.5. Before mortar is placed in patches, a grout of cement and water mixed to the consistency of paint shall be brushed into the surfaces to which the new material is to be bonded.

7.11.6. On concrete which will be exposed in finished work, approximately 20 percent white cement shall be mixed with the gray cement to offset the tendency of patches to show up darker than the surrounding concrete.

7.11.7. Throughout finishing operations and repair of defects, the surface shall not be allowed to become dry (damp cure for 72 hours), nor shall the underlying concrete be damaged.

7.11.8. Finished repairs will be inspected. Unsatisfactory repairs shall be redone by and at the expense of the Contractor as directed by the Construction Manager.

7.12. Concrete Finishes

7.12.1. General. Concrete surfaces shall be given finishes in accordance with the following and as shown on the Drawings.

7.12.1.1. Formed sides of duct banks and formed concrete surfaces against which backfill will be placed, and which will therefore be concealed in the finished work, shall have fins and burrs removed, tie rod holes packed, and defects repaired. No other finishing will be required.

7.12.1.2. The top surface of duct bank encasements shall be given a float finish, combined with a special tinting treatment as specified hereinafter. Electrical Manhole floor slabs shall be given a broomed finish as specified hereinafter.

7.12.1.3. Formed concrete surfaces which will remain exposed to view in the finished work, shall be given a smooth finish.

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7.12.1.4 Interior floor surfaces which will remain exposed to view in the finished work shall, unless otherwise indicated, be given a monolithic finish.

7.12.1.5. Exterior slab surfaces shall be floated, and unless otherwise indicated, shall be given a broomed finish.

7.12.1.6. Surfaces which will subsequently be grouted for support of column baseplates, equipment, etc., shall be given a float finish.

7.12.2. Float Finish. Floating shall be accomplished by either wood, cork, or metal floats or by a finishing machine. After the concrete has been placed, vibrated, and roughly leveled, it shall be screeded off to the required elevation. Coarse aggregate shall be pushed below the surface. The use of "jitterbugs" shall not be permitted. After screeding and tamping of coarse aggregate, the surface shall be made uniform by means of bull floats operated with a horizontal motion. After floating, the surface shall be tested for uniformity by use of a straightedge. Variations from desired finished elevations shall not exceed 1/4 inch in ten feet. Use of neat cement to absorb excess surface moisture is prohibited. While still plastic, the top surface of the concrete encasing each duct bank shall be uniformly dusted with the specified red concrete coloring agent and wood floated to a smooth flat surface having an acceptably uniform red color.

7.12.3. Monolithic Finish. Where monolithic finish is required, the concrete shall be finished by minimum floating the concrete to force the coarse aggregate away from the surface, then screeding and floating with straightedges to bring the surface to the required finish level. While the concrete is still green but sufficiently hardened to bear a man's weight without deep imprint, it shall be wood-floated to a true, even plane with no coarse aggregate visible. Sufficient pressure shall be used on the wood floats to bring moisture to the surface. After the surface moisture has disappeared, concrete surfaces shall be steel-troweled to a smooth, even finish, free from trowel marks. After the concrete has set enough to ring the trowel, concrete surfaces which remain exposed to view in the finished work shall be given a second steel troweling to a burnished finish. Variations from desired finished elevations shall not exceed 1/4 inch in ten feet. Use of neat cement to absorb excess surface moisture is prohibited.

7.12.4. Broomed Finish. Where a broomed finish surface is required, floating as specified for Float Finish shall be completed and the surface finished by brooming. The brooms shall be of the push broom or floor brush type. The brooms shall be drawn across the surface from the centerline to each side with not more than one stroke per width of broom, slightly overlapping adjacent strokes. The brooming operation shall be so executed that the corrugations provided in the surface will be uniform in appearance and not more than 1/16 inch in depth. Sufficient time shall be allowed before starting brooming to permit surplus water and laitance to rise to the surface. The brooming operation shall be completed before the concrete is in such condition that it will be torn or unduly roughened, and before initial set has developed.

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7.12.5. Smooth Finish. Smooth finish for formed concrete surfaces shall consist of thoroughly wetting and brush-coating the surfaces with cement grout composed of 1 part light-colored Portland cement to 2 parts fine aggregate, mixed with water to the consistency of thick paint. Grout shall be cork- or wood-floated to fill all pits, air bubbles, and surface holes. Excess grout shall be scraped off with a trowel and the surface rubbed with burlap to remove any visible grout film. In hot, dry weather, the grout shall be kept damp by means of a fog spray during the setting period. The finish for each area shall be completed in the same day, and the limits of a finished area shall be established at natural breaks in the finished surface.

7.13. Protection and Curing. Protection and curing shall be accomplished by preventing loss of moisture, rapid temperature change, mechanical injury, or damage from rain, frost or flowing water. Curing shall be started as soon after placing and finishing as the surface conditions are suitable. Curing of formed surfaces shall be accomplished by moist curing with forms in place for the full curing period, or, if forms are removed prior to the end of the curing period, by any of the following methods or combinations thereof:

7.13.1. Minimum Curing Periods. The following shall be the minimum curing periods for all concrete placed hereunder, except as noted in ACI 306:

| <u>Curing Temperature</u> | <u>Curing Period</u> |
|---------------------------|----------------------|
| 50 to 70 degrees F        | 7 days               |
| 70 to 100 degrees F       | 5 days               |

7.13.2. Protective Wet Curing. The protective medium for wet curing shall consist of saturated cotton mats or a double layer of burlap, of sufficient size to cover the entire concrete surface and side forms. The mats or burlap shall be kept continually wet during its use. After finishing operations and prior to start of protective wet curing, the concrete surface shall be kept wet with adequate fog spraying equipment. During any change in curing medium, the concrete shall not remain exposed for more than one hour.

7.13.3. Moist Curing. Unformed surfaces shall be covered with burlap, cotton or other approved fabric mats kept in contact with the surface, or with sand, and shall be kept continually wet. Where formed surfaces are cured in the forms, the forms shall be kept continually wet. If the forms are removed before the end of the curing period, curing shall be continued as on unformed surfaces, using suitable materials. Burlap shall be in two layers.

7.13.4. Waterproof-Paper Curing. Surfaces shall be covered with waterproof paper with 4 inches of overlap at sides and ends and sealed with mastic or pressure-sensitive tape not less than 1-1/2 inches in width. The paper shall be weighted to prevent displacement, and tears or holes occurring during the curing period shall be immediately repaired by patching.

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7.13.5. Membrane Curing

7.13.5.1. Pressure spray curing compounds shall be of the type previously specified. The compound shall be applied according to the manufacturer's directions and shall be applied immediately after finishing operations are completed and after forms are removed. The quantity shall be sufficient to ensure the formation of a continuous unbroken film. The curing compound shall be applied to the entire area of the exposed surface, and shall be applied in two separate applications, each of which shall be by an even sweeping motion of the nozzle with sufficient overlap to ensure uniform and complete coverage. The second application shall follow five to thirty minutes after the first application and shall be applied to cross and recross the sweep of the first application.

7.13.5.2. Curing compound shall not be used or permitted on surfaces where future bonding, grouting floor hardener, or painting is indicated. Such surfaces shall be moist cured as previously specified.

7.13.5.3. After final application of the compound, surfaces shall be protected from traffic and other damage to the membrane for a period of curing as previously specified.

7.13.5.4. The use of any membrane material which will impart a slippery surface to the concrete or alter its natural color shall not be permitted. The compound, however, shall contain a fugitive dye of color strength sufficient to render the film distinctly visible on the concrete surface for a period of at least four hours after application. The compound shall harden within thirty (30) minutes.

7.13.5.5. If concrete surfaces are expected to be exposed to freezing temperatures within five (5) days, membrane curing compound shall not be used, unless enclosing and heating methods approved by the Construction Manager are employed.

7.13.6. Polyethylene Sheeting and Polyethylene-Coated Waterproof Paper and Burlap. Surfaces shall be completely covered. Where a single sheet does not cover the entire surface, ends and sides shall be lapped not less than 4 inches and sealed with pressure-sensitive tape.

7.14. Protection. The Contractor shall be fully responsible for protecting his finished concrete work from damage, marring of finish, discoloration or other detrimental conditions during curing and his subsequent construction operations.

7.14.1. After the curing periods specified, concrete shall not be allowed to heat or cool faster than 5 degrees F per hour, or 20 degrees F per twenty-four hour period, until outside temperatures are reached. Either dry or steam heat will be an acceptable means of maintaining temperature control.



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7.14.2. Open type or oil pot salamanders are prohibited for temporary heating purposes.

7.14.3. Heaters shall not be placed directly upon uncured concrete.

7.14.4. When the air temperature is expected to exceed 90 degrees F within forty-eight hours after placement, concrete surfaces shall be protected from direct sunlight for a minimum period of forty-eight hours. Use of membrane curing compound alone does not satisfy this requirement.

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8.0. TS TANK FOUNDATION AND CONTAINMENT BASIN

Except as specified elsewhere and indicated by cross-references, this Article covers the Thermal Storage (TS) Tank Foundation, and the Containment Basin for the TS Tank and the TS Makeup Tank.

8.1. General. Construction of the TS Tank Foundation and Containment Basin will require considerations and use of materials which are peculiar to the above, and are exceptions to other work under this Contract, such as:

8.1.1 The TS Tank Foundation will be of reinforced lightweight concrete as shown on the Drawings, and will require the use of both lightweight structural and insulating types.

8.1.2. A portion of the Containment Basin liner will require lightweight structural concrete, while the remainder will require regular concrete. Usage shall be as shown.

8.1.3. Heat-resistance is a prime consideration and will require the use of waterstops and expansion joint sealer capable of satisfactory service at elevated temperatures.

8.2. Work Specified Elsewhere

8.2.1. Earthwork. Earthwork is specified in Article 5.0, EARTHWORK.

8.2.2. Concrete. Except as otherwise specified hereinafter, concrete materials and concrete work shall conform to Article 7.0, CONCRETE WORK.

8.2.3. Drain Piping. Drain piping is specified in Article 9.0, DRAIN PIPING.

8.3. Concrete

8.3.1 Regular Concrete. Regular concrete shall conform to Article 7.0, CONCRETE WORK, and be of the class indicated for the particular use.

8.3.2. Lightweight Structural Concrete. The lightweight structural concrete shall be batched, mixed and delivered in accordance with ASTM C94, "Ready-Mixed Concrete", Alternative 2, as further defined below.

8.3.2.1. Aggregate shall be lightweight aggregate conforming to ASTM C330. The maximum size of the coarse aggregate shall not exceed 3/4 inch.

8.3.2.2. Cement shall be an approved brand of Portland cement conforming to ASTM C150 Type II, low-alkali. A single brand of cement shall be used.

8.3.2.3. Water shall conform to the requirements of Paragraph 4.1.3. of ASTM C94.

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8.3.2.4. At 28 days, the lightweight structural concrete shall have a unit weight of approximately 100 pounds per cubic foot and attain a compressive strength of not less than 4000 psi.

8.3.3. Lightweight Insulating Concrete. The lightweight insulating concrete shall be batched, mixed and delivered in accordance with ASTM C94, "Ready-Mixed Concrete", Alternative 2, as further defined below.

8.3.3.1 Lightweight aggregate shall be expanded perlite aggregate conforming to ASTM C332, Group I and commercially produced by member firms of the Perlite Institute.

8.3.3.2. Sand shall conform to ASTM C33.

8.3.3.3. Cement shall be an approved brand conforming to ASTM C150, Type I or Type III.

8.3.3.4. Water shall conform to the requirements of Paragraph 4.1.3. of ASTM C94.

8.3.3.5. At 28 days, the lightweight insulating concrete shall have a unit weight of approximately 40 pounds per cubic foot and attain a compressive strength of not less than 400 psi.

8.3.4. Design Mixes. Certified design mixes shall be submitted for the lightweight structural concrete and for the lightweight insulating concrete in accordance with Paragraph 7.1.4. of Article 7.0, CONCRETE WORK.

8.3.5. Usage. Usage of the various classes and types of concrete in the construction of the TS Tank Foundation and the Containment Basin shall be as shown on the Drawings.

8.4. Materials Other Than Concrete

8.4.1 Waterstop. Waterstop for elevated temperature service around the TS Tank Foundation shall be of soft sheet copper, roll-formed to the section and dimensions shown. The sheet or strip copper from which this waterstop is formed shall be in the range of 25 to 28 BWG (0.020 to 0.014 inch thick). Solder for joining waterstop segments shall be Grade 5A or 10A tin-lead alloy solder conforming to ASTM B32, or a Construction Manager approved equal grade having a melting point in excess of 500 degrees F.

8.4.2. Expansion Joint Materials. Materials for expansion joints within the T.S. Containment Basin shall meet the following requirements:

8.4.2.1. Expansion joint material placed on the earth side of the waterstop shall be Rodofam II as manufactured by Construction Products Division, W.R. Grace & Co., or Construction Manager approved equal. The

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second concrete placement may be made against this material when attached to a concrete surface with the manufacturer's recommended adhesive. Expansion joint material placed on the exposed (upper) side of the waterstop shall be installed after concrete placement and form removal, and shall be Cerablanket-FS as manufactured by Johns-Manville, or Construction Manager approved equal.

8.4.2.1. Caulking. Caulking shall be a silicone sealant conforming to FS TT-S-230a with a maximum service temperature range of at least 250 degrees F.

8.4.2.3. Primer. As recommended by the manufacturer of the caulking compound.

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9.0. DRAIN PIPING

This Article covers drains and drain piping to be furnished and installed under this Contract.

9.1. General

9.1.1. The work hereunder consists of furnishing and installing floor drains and floor drain piping, Hot Oil drain piping, and TS Tank Foundation drain piping, within the limits indicated, and to the routing shown.

9.1.2. Earthwork, bedding, insulating and backfilling for buried piping shall be in accordance with Article 5.0, EARTHWORK.

9.1.3. Drawings detailing any proposed departure from the construction drawings, shall be submitted to the Construction Manager for approval. No departures from the Drawings shall be made without prior approval.

9.1.4. Piping materials furnished by the Contractor shall have been subjected to all factory tests and inspections required by good manufacturing practice, and by the referenced Codes, Standards and regulations.

9.2. Materials

9.2.1. Floor Drain Piping. Floor drains and floor drain piping materials shall conform to Piping Material Specification YIB, furnished as a supplement to this Specification.

9.2.2. Hot Oil Drain Piping. Drain piping materials for hot oil service shall conform to piping Material Specification BBA, furnished as a supplement to this Specification.

9.2.3. TS Tank Foundation Drain Piping. Piping materials for the TS Tank Foundation drain piping shall conform to Piping Material Specification BBA, and shall be coated in accordance with Engineering Standard SE02.1 furnished as a supplement to this Specification.

9.3. Installation

9.3.1. General. Installation of drain piping hereunder shall be in accordance with the construction drawings, the applicable Piping Material Specification, and the additional requirements specified herein and in Article 5.0., EARTHWORK. Piping shall not be backfilled, cast in concrete, or otherwise concealed before it has been inspected for proper installation, and has been released for concealment.

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9.3.2. Floor Drain Piping

9.3.2.1. Changes in pipe size for floor drain lines shall be made with reducing fittings. Changes in direction shall be made by appropriate use of 45 degree wyes, long or short sweep 1/4, 1/6, 1/8 or 1/16 bends, singly or in combination, or by equivalent fittings. Single and double sanitary tees with 1/4 bends may be used in drainage lines only where the direction of flow is from horizontal to vertical. The use of long screws and bushings is prohibited.

9.3.2.2. Where cutting of pipe is required the pipe shall be cut square, without damage to the pipe. Cutting shall be done only with an approved type of mechanical cutter. Wheel cutters shall be used where practicable.

9.3.2.3. Pipe, fittings, and accessories shall be handled with care to prevent damage to the items or their finish, and to prevent entry of dirt or foreign objects. Before installation, the pipe and fittings shall be inspected for defects and for damage. Material found to be defective or damaged shall not be installed, and shall be replaced with sound material by and at the expense of the Contractor.

9.3.2.4. The compression type joints shall be fully made up in accordance with the manufacturer's recommendations and shall be leak-tight. Any joint which is improperly made up, or which leaks, shall be re-made and shall be re-tested.

9.3.3. Hot Oil Drain Piping

9.3.3.1. The hot oil drain piping shall be sized and routed as shown on the Drawings.

9.3.3.2. All hot oil drain piping which will be buried shall be supported off the trench bottom by means of non-decaying supports such as concrete blocks, leaving not less than 8 inches clear between the bottom of the pipe and the trench bottom, for encasement with poured insulating fill. Insulation shall be furnished and installed by the Contractor in accordance with Article 5.0, EARTHWORK.

9.3.3.3. Welding of piping for hot oil drain service shall be performed in accordance with ANSI B31.1, and shall be performed only by welders or welding operators who have qualified in accordance with this Code.

9.3.4. TS Tank Foundation Drain Piping

9.3.4.1. Piping for TS Foundation drains shall be sized, positioned and routed as shown on the Drawings.

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9.3.4.2. Welding of piping for the foundation drains shall be performed in accordance with ANSI B31.1, and shall be performed only by welders or welding operators who have qualified in accordance with this Code.

9.3.4.3. Foundation drain piping does not require insulating fill, but instead, shall be bedded and backfilled in accordance with Article 5.0, EARTHWORK.

9.3.4.4. Each foundation drain pipe shall have its protective coating, including field welds and damaged areas of coating, brought to compliance with Engineering Standard SE02.1, and inlet screen installed, before concealment.

9.4. Leak Testing

9.4.1. General. Prior to concealment, all piping installed under this Contract shall, except as noted, be proved by test to be free from leaks. It shall be the responsibility of the Contractor to furnish and install all test instruments, temporary connections, closures, drains, leak test solutions, and other items and materials necessary for accomplishing the required leak testing. It shall also be the responsibility of the Contractor to furnish all test media such as clean water and compressed gas.

9.4.2. Floor Drain Piping. Before concealment, the installed floor drain piping shall have a temporary closure installed at each low-point stub-out, be filled with water, and be leak-tested with a minimum 10-foot static head of water. The static head of water shall be maintained for a period of not less than 8 hours, and shall prove free from detectable leaks throughout that period. Any leaks revealed by the above test shall be repaired and the test repeated until the piping is shown to be free from leaks. The water shall then be drained from the piping, and temporary closures installed at all openings to prevent entry of dirt and foreign matter into the piping.

9.4.3. Hot Oil Drain Piping. Before concealment, the hot oil drain piping shall be hydrostatically leak tested in accordance with the following:

9.4.3.1. All openings except the one required for pressurizing and pressure gage, shall have water-tight closures, which are suitable for the test pressure, installed.

9.4.3.2. The hot oil drain piping shall be pressurized to 200 psi, as registered by the Contractor-installed pressure gage. Each weld shall then be inspected for leaks.

9.4.3.3. Should any leaks be detected, pressure shall be bled off, the defects corrected, and the piping proved free from leakage by re-test.

9.4.3.4. Following satisfactory completion of leak testing, all pipe openings shall be sealed. Flanged openings shall be sealed with blind flanges and threaded openings shall be sealed with pipe plugs or pipe caps, as applicable.

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9.4.4. TS Tank Foundation Drain Piping. Other than visual inspection for quality and completeness of welds, TS Tank Foundation Drain Piping will require no leak testing.



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10.0. ELECTRICAL WORK

This Article covers electrical work to be performed under this Contract.

10.1. General. The electrical work to be performed hereunder shall be accomplished and installed in compliance with all Electrical Codes, Standards and Regulations applicable to the work, and in accordance with the requirements specified herein. The work shall be performed only by workmen qualified in the craft skills required.

10.2. Description of Work

10.2.1. Contractor's Work. The Contractor shall furnish and install all electrical materials required to form a complete electrical installation as specified herein and as shown on the Drawings. Such Contractor-furnished electrical materials shall include, but not necessarily be limited to, the following:

10.2.1.1. Thermal Storage Tank Foundation thermocouples, heat flux transducers, and terminal box.

10.2.1.2. Under-slab electrical conduit and fittings, and stub-ups.

10.2.1.3. Concrete encased underground electrical duct bank.

10.2.1.4. All other electrical materials not specifically shown on the Drawings, but required to complete the electrical installation shown and/or specified.

10.2.2. Work to be Performed by Others. Furnishing and installing electrical cables in raceways installed under this Contract, will be performed by others, except as indicated in 10.2.1.1.

10.3. Materials

10.3.1. Conduit, Fittings and Hardware. The Contractor shall furnish and install all conduit and required fittings and hardware in accordance with the Drawings and as specified herein. All conduit installations shall be made in accordance with the requirements of the National Electrical Code.

10.3.1.1. Nonmetallic Conduit. The nonmetallic conduit for duct bank shall be PVC, Carlon Type EB or approved equal. Fittings and cement shall be from the same manufacturer as the conduit. Spacers for duct bank installation shall be Type "Formex", or approved equal. The longitudinal distance between spacers shall be per manufacturer's recommendations.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

10.3.1.2. Rigid Galvanized Steel (RGS) and Intermediate Metal (IMC) Conduit

10.3.1.2.1. RGS or IMC conduit shall be used as shown on the Drawings. The conduit shall have threaded connections. The conduit shall have a surface that is thoroughly protected against corrosion by an even coating of zinc applied by the electro-galvanizing, hot-dip or the Sherardizing process. Conduit shall have a protective coating of enamel or lacquer applied to the inside of the conduit over the zinc coating. Each length of conduit shall be threaded on both ends and each end shall be reamed to remove burrs and sharp edges. If threads are cut after the zinc coating is applied, the threads shall be treated with a protective coating to prevent corrosion. Treatment of threads shall not interrupt the electrical continuity through couplings or fittings after installation.

10.3.1.2.2. All conduit installed in direct contact with the earth shall be rigid steel or IMC and have a bonded PVC jacket or an approved corrosion protection suitable for the conditions of service. The Contractor shall apply an approved corrosion protection system to all field-made joints in the corrosion-protected conduit.

10.3.1.2.3. Fittings, locknuts, bushings and miscellaneous hardware used with the conduit shall be compatible with the conduit and shall be cast or malleable iron, as applicable. Conduit fittings shall be Crouse-Hinds "Condulets," Appleton Electric Company "Unilets," or approved equal. Condulets shall have screw hubs unless specifically noted otherwise on the Drawings. Bushings shall be of the insulated grounding type. Conduit straps shall be malleable iron, hot-dip galvanized, Thomas & Betts, or approved equal. Conduit fittings shall bear UL-approved label.

10.3.1.2.4. Covers for condulets, boxes, etc., located outdoors shall be provided with neoprene gaskets. In direct earth buried applications, all fittings and straps shall be PVC coated or hardware equally qualified for use in the environment.

10.3.2. Miscellaneous Electrical Equipment and Materials. The Contractor shall furnish and install miscellaneous equipment and materials as shown on the Drawings and as required to complete the electrical installation, such as framing strut and fittings, wire lugs, connectors, markers, nameplates, heat shrinkable material, pulling compound, cable ties, raceway filler, and temporary items.

10.3.3 Thermal Storage Tank Foundation Instrumentation. Thermocouples, heat flux transducers, terminal box and related materials shall be as shown on the Drawings.

10.4. Installation. Installation requirements for electrical materials and equipment not covered elsewhere in these Specifications shall be in accordance with the Drawings and as specified hereinafter.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

10.4.1. Conduit Installation. All conduit shall be installed in strict compliance with the National Electrical Code and all State and local codes in effect at the time the Contract is awarded.

10.4.1.1. Underground Duct Bank. The duct bank shall be constructed in accordance with the Drawings and as specified herein and shall be PVC conduit encased in reinforced concrete as specified in Article 7.0., CONCRETE WORK. Excavation, backfilling and other earthwork shall be as specified in Article 5.0., EARTHWORK.

10.4.1.1.1. The duct bank shall have a slope of at least three inches for every 100 feet of run for drainage, unless shown otherwise on the drawings.

10.4.1.1.2. Horizontal and vertical spacing between conduits shall be three inches minimum. Concrete encasement shall be three inches minimum from the outside of conduits.

10.4.1.1.3. The radius of curvature for bends shall not be less than 50 feet. Ducts emerging from grade shall be terminated with an RGS or IMC 90 degree elbow, minimum radius 36 inches or as indicated on the Drawings.

10.4.1.1.4. All conduits shall be cleaned; reamed where required to remove burrs; coated with cementing and/or sealing compounds, as required, and forced tightly together to achieve watertight seals. After conduit installation, but before concrete encasement, the conduits shall be thoroughly mandreled and cleaned to remove foreign material. Wire brush mandrels shall be used.

10.4.1.1.5. Bell-ends shall be installed where conduits terminate in manhole walls and shall be flush with the inside of the wall.

10.4.1.1.6. The conduit shall be installed in accordance with the latest NEC requirements for installation of rigid nonmetallic conduit.

10.4.1.1.7. To provide watertight joints in the conduit prior to placement of concrete, the joints shall be cleaned of oil and other foreign substances and coated with the conduit manufacturer's cement immediately after installation.

10.4.1.1.8. Spacers shall be used to space the conduits and hold them rigidly in place. The conduit shall be capped or plugged with a flexible or pliable device approved for this purpose to prevent entry of concrete, dirt and foreign material during duct bank construction, while allowing for installation of the pulling rope specified hereinafter.

10.4.1.1.9. After mandreling and cleaning of the conduits, a 5/32-inch "poly rope," Graybar Electric Company or approved equal, shall be installed and left in each conduit to provide for cable pulling.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

10.4.1.2. Direct-Buried Conduit. Conduit for direct burial shall be installed in accordance with the Drawings and as specified in Article 5.0., EARTHWORK.

10.4.1.3. RGS or IMC Conduit. RGS or IMC conduit shall be installed as shown on the Drawings and as follows:

10.4.1.3.1. The Contractor shall be responsible for installing conduit in the approximate locations shown on the Drawings. All conduit which is improperly installed or located shall be removed and properly reinstalled by the Contractor or by others at the Contractor's expense. The Contractor shall resolve all instances where conflicts exist and notify the Construction Manager of such conflicts and resolutions.

10.4.1.3.3. Bends and offsets shall be avoided where possible, but where necessary shall be made with an approved type hickey or conduit-bending machine. All offsets and sweeps shall be bent to a minimum radius as shown in NEC Table 346-10. Conduit which has been crushed or deformed in any way shall not be installed.

10.4.1.3.4. Conduit shall be installed so as to ensure against collection of trapped condensation, and to be free of traps wherever possible.

10.4.1.3.5. Wooden plugs inserted in concrete shall not be used as a base to secure conduit supports. Conduit shall be supported on approved types of galvanized wall brackets, strap hangers, or one- and two-hole pipe clamps; secured by means of expansion bolts in concrete and machine screws on metal surfaces. Fasteners set by explosive charges shall not be used.

10.4.1.3.6. Conduit shall be securely fastened to junction boxes with patented hubs or double locknuts and bushings. Care shall be exercised to see that the full number of threads project through to permit the bushing to be drawn tight against the end of the conduit. Field-cut threads shall be de-burred and cleaned to prevent damage to the cable installed within the conduit.

10.4.1.3.7. Ends of conduit shall be cut square with hand or power saw or approved pipe cutter. Cut ends shall be reamed to remove burrs and sharp edges. Field-cut conduit threads shall have same effective length and same thread dimensions and taper as specified for factory cut threads.

10.4.1.3.8. Conduit joints shall be made with approved type couplings and unions in accordance with NEC requirements.

10.4.1.3.9. The Contractor shall prevent the lodgement of dirt, concrete, or trash in conduit, conduit fittings and boxes during the course of installation. Conduit which has become clogged shall be entirely cleared of accumulations or shall be replaced.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

10.4.1.3.10. All material incidental to the installation of conduit shall be furnished by the Contractor.

10.4.1.3.11. Mounting of boxes shall be as shown on the Drawings.

10.4.2. Instrument Lead Installation. The installation of instrument leads shall be in accordance with the Drawings and as specified herein.

10.4.2.1. Each instrument lead shall be identified by the circuit number shown on the Drawings. Instrument lead identification shall be by means of self-sticking plastic-coated printed markers approved by the Construction Manager. A cable marker shall be attached at the junction box end of the leads. All leads shall have markers at points where connected to terminal blocks. Each terminal block shall have marking strips containing the wire identification number.

10.4.2.2. Hangers, racks, clamps and supports shall be provided as required for proper instrument lead installation.

10.4.2.3. All leads shall be supported inside the junction box in such a manner as to prevent distorting the jacket and insulation. Leads shall be arranged to eliminate the distorting pressures that may occur at conduit bushings.

10.4.2.4. All leads shall be neatly installed and routed as shown on the Drawings.

10.4.2.5. Cutting of metal-clad instrument leads shall be accomplished with an approved cutting tool recommended by the instrument manufacturer.

10.5 Testing. The Contractor shall provide all required craft support and specialized personnel and testing equipment to perform complete testing of the electrical installation made by him, and shall demonstrate that the equipment and systems as installed are in full accordance with the plans and specifications and ready for operation. The Contractor shall perform tests as follows:

10.5.1. Testing thermocouples and lead wires for grounds, short circuits and open circuits with a 500-volt dc megohmmeter and multimeter and testing the millivolt output of the thermocouples with a potentiometer after installation of the thermocouples and termination of the lead wires, before placement of concrete and after placement of concrete.

10.5.2. Testing of heat flux transducers and lead wires for grounds, short circuits and open circuits with a multimeter and with a wheatstone bridge after installation of the thermocouples, before placement of concrete and after placement of concrete.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

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10.5.2. Testing of heat flux transducers and lead wires for grounds, short circuits and open circuits with a multimeter and with a wheatstone bridge after installation of the thermocouples, before placement of concrete and after placement of concrete.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

11.0. PRIME AND TOUCH-UP PAINTING

This Article covers and is applicable to surface preparation, prime painting and touch-up painting, both shop and field, as necessary for the metalwork to be furnished and installed under this Contract.

11.1. General

11.1.1. Shop Painting. Shop-fabricated steel items shall receive the specified surface preparation and shall, except as excluded below, be prime-painted before shipment to the field.

11.1.2. Field Painting

11.1.2.1. Field-fabricated steel and field-installed bolting shall, except as excluded below, receive the specified surface preparation and be prime painted in the field.

11.1.2.2. Damaged areas of shop primer shall be touched up in the field, using the same primer as the shop coat.

11.1.2.3. Abraded or corroded areas of galvanizing shall be touched up in the field, using the specified galvanizing repair compound.

11.1.2.4. Field finish painting of primed surfaces will be performed by others.

11.1.3. Surfaces Not to be Painted. Prime paint shall not be applied to the following surfaces:

11.1.3.1. Galvanized surfaces.

11.1.3.2. Surfaces which will be in contact with concrete when installed.

11.2 Materials

11.2.1. Prime Paint. The prime paint for both shop and field use under this Contract shall be an approved rust-inhibitive primer meeting the following requirements, and shall be a single product and color of the manufacturer.

11.2.1.1. Type: "Universal" alkyd or modified alkyd base, medium length, penetrating rust-inhibitive primer.

11.2.1.2. Drying time to handle: 2 to 4 hours, minimum.

11.2.1.3. Minimum solids content: 55 percent by volume.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

11.2.1.4. Acceptable color: Red, green, gray, blue or white.

11.2.2. Galvanizing Repair Compound. Galvanizing repair compound shall be Galvanox Type 1 as manufactured by the Subox Division of Carboline Company, or a Construction Manager approved equal zinc-rich galvanizing repair compound, gray in color.

11.2.3. Thinner. Thinner shall be as recommended by the manufacturer of the product to be thinned.

11.2.4. Cleaning Solvents. Solvent for cleaning steel surfaces shall be SOCAL No. 2 or an approved equal solvent which does not leave a greasy film which would interfere with adhesion of the prime paint. Solvent for cleaning galvanized surfaces shall be xylol.

11.3. Shop Painting

11.3.1. Surface Preparation. All surfaces of ungalvanized structural and miscellaneous steel, including surfaces not to be painted, shall be prepared in accordance with Steel Structures Painting Council Specification SSPC-SP6, "Commercial Blast Cleaning." These surfaces shall then be thoroughly wiped down to remove all traces of grit or other contaminants, and solvent cleaned in accordance with SSPC-SP1 prior to application of prime paint.

11.3.2. Application. Prior to any deterioration of the prepared surfaces, those surfaces not excluded from painting shall be given one or more coats of primer for a total dry film thickness of not less than 2 mils. Application of the prime paint shall conform to SSPC Specification SSPC-PA1, "Shop, Field and Maintenance Painting" and the printed recommendations of the paint manufacturer.

11.3.3. Match Marking. Following shop prime painting, the steel shall receive painted or stenciled match or piece marks identical to those appearing on the Contractor's shop and erection drawings.

11.4. Field Painting. Immediately upon detection, all damaged areas of shop primer, and galvanized areas that have been abraded, field cut, or damaged by field welding, shall be prepared and touch-up painted. Field-installed bolting shall not receive surface preparation and prime painting until tightened, inspected and approved.

11.4.1. Surface Preparation. Galvanized and ungalvanized surfaces to receive field touch-up prime painting or field touch-up with galvanizing repair compound, and field-installed fasteners to be prime painted, shall be prepared in accordance with SSPC Specification SSPC-SP3, "Power Tool Cleaning."

11.4.2. Application. Application and curing of the prime paint and galvanizing repair compound shall be in strict accordance with the manufacturer's instructions and SSPC Specification SSPC-PA1, "Shop, Field and Maintenance Painting."



SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

11.4.2.1. Touch-up areas on ungalvanized steel shall be given one (1) coat of the same prime paint as used for the shop coat.

11.4.2.2. Touch-up areas on galvanized surfaces shall be given a minimum of two (2) coats of galvanizing repair compound.

11.4.2.3. Field bolting shall be given one or more coats of the same prime paint as used for the adjacent surfaces.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

12.0. AGGREGATE BASE COURSES

This Article covers constructing compacted aggregate base courses for various areas located within the existing Core Area Perimeter Road. The extent and finished thickness of such surfacing shall be as shown on the Drawings.

12.1. General. Aggregate surfacing constructed hereunder shall be compacted aggregate base courses conforming to the requirements of Section 26 of the "Standard Specifications of the State of California, Department of Transportation," Class 2 Aggregate Base, 3/4-inch maximum aggregate size, except that the compaction and tolerance requirements specified hereinafter shall govern.

12.1.1. The aggregate base material shall meet the gradation quality and other requirements of Article 26-1.02B of the referenced Standard Specification.

12.1.2. All aggregate base materials required for the work hereunder shall be furnished by the Contractor from off-site sources. The aggregate base material shall not be used in the work until certification by the supplier indicates its compliance with Article 26-1.02B of the Standard Specification.

12.1.3. In-place density of both compacted subgrade and compacted aggregate base course will be determined by the Testing Agency in accordance with ASTM D1556 (Sand-Cone Method) or ASTM D2922 (Nuclear Method).

12.2. Subgrade Requirements. Immediately prior to commencing base course construction thereon, the subgrade surfaces shall be inspected by the Construction Manager's Testing Agency to verify the density and tolerance requirements of Paragraph 5.8. of Article EARTHWORK. At the time of commencing aggregate base course construction, the subgrade of the area to be surfaced shall be near optimum moisture content as determined in accordance with ASTM D1557.

12.3. Construction

12.3.1. Aggregate base material shall be placed only on finished subgrades meeting the specified requirements for section, density, uniformity and smoothness, and which are free from loose or frozen material. Aggregate base material shall not be placed on the prepared subgrades when the moisture content of the top 6 inches of the subgrade exceeds optimum.

12.3.2. The aggregate base material shall be placed in uniform mixtures and shall be spread in layers or windrows without segregation. Segregated materials shall be mixed until uniform.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

12.3.3. The aggregate base material shall be spread, watered, processed, shaped and compacted as specified. Where the required thickness of the completed course is 6 inches or less, the material may be spread and compacted in a single layer. Where the required thickness of the completed aggregate base exceeds 6 inches, the base material shall be spread and compacted in layers of approximately equal thickness, providing the compacted thickness of a layer shall not exceed 6 inches.

12.3.4. After the top surface of each course has been spread and shaped, and before compaction is completed, all surface transverse and longitudinal irregularities shall be eliminated.

12.3.5. Each layer of aggregate base material shall be uniformly compacted throughout to a density of not less than 95 percent of maximum density at optimum moisture content as determined in accordance with ASTM D1557.

12.3.6. The finished and compacted surface of the compacted aggregate surfacing shall conform to the grade and typical sections shown on the Drawings, or with authorized modifications thereof. When tested in any direction with a 10 foot straightedge, the finished base course shall not show a deviation in excess of 3/8-inch.

12.3.7. All shoulder construction shall be done in proper sequence with construction of the aggregate base courses. In compacting edges of the subgrade and aggregate base courses, the rolling shall be as specified for the base course. Completed shoulders shall be true to alignment and grade, shaped to drain, and in conformity with the sections shown on the Drawings.

12.4. Maintenance. The Contractor shall maintain all aggregate-surfaced areas and their shoulders in satisfactory condition until completion of the Contract, promptly correcting all erosion, settlement and surface irregularities which may develop. Such maintenance shall be performed by the Contractor as operations incidental to aggregate base course construction, without additional compensation.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

13.0. TEST REQUIREMENTS, REPORTS AND PROCEDURES

13.1. Manufacturing Tests. Manufacturing tests are those tests performed during the production of materials and the production and/or fabrication of equipment specified by this Contract before they are installed as part of the operating plant.

13.1.2. Manufacturing Test Requirements. The Contractor shall perform, or require performance of, the manufacturing tests as defined in various articles throughout this Contract.

13.1.3. Manufacturing Test Reports. The Contractor shall submit to the Construction Manager for review and acceptance reports of all manufacturing tests, where required, in accordance with Article 4.0. "Drawing and Data Submittals" and as listed in Engineering Standard FJ60.60 attached. If submittal of a test report for any specified test is not required, the Contractor shall submit written certification that the specified manufacturing test was performed.

13.2. Construction Tests. Construction Tests are those tests performed after installation at the jobsite of materials and equipment specified by this Contract.

13.2.1. Construction Test Requirements. The Contractor shall perform all construction tests as defined in the various articles of this Contract.

13.2.2. Construction Test Reports. The Contractor shall submit to the Construction Manager for review and acceptance, reports of construction tests, where required, in accordance with Article 4.0. "Drawing and Data Submittals" and as listed in Engineering Standard FJ60.60 attached. If submittal of a test report for any specified test is not required, the Contractor shall submit written certification that the specified construction test was performed.

13.2.3. Construction Test Procedures. The Contractor shall develop written procedures for all construction tests required by this Contract and submit these procedures to the Construction Manager for review and acceptance prior to commencement of construction work at the jobsite. The Contractor shall perform construction tests in accordance with "Construction Test Checklists," an example of which is attached hereto. The checklists will be issued to the Contractor after his test procedures have been accepted and prior to performance of the tests. After the completion of all tests listed on each system, the Contractor shall sign and date the "completed" blanks and submit a copy of the checklist to the Construction Manager for review and acceptance. The Contractor shall submit appropriate test data sheets with the Construction Test Checklist. When the tests have been completed to the satisfaction of the Construction Manager, he will sign and date the "Released" blanks and issue a copy to the Contractor. The "Released" signature will indicate that the tested system is released to the custody of the Contracting Officer.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

13.2.3.1. The Contractor shall not deviate from his established and accepted test procedures without the written approval of the Construction Manager.

13.2.3.2. Release of equipment and systems to the custody of the Contracting Officer shall not constitute complete acceptance and shall not relieve the Contractor of responsibility for performance of warranties, and shall not negate other provisions of this Contract.

SECTION 4 - IFB  
TECHNICAL INFORMATION (CONTD)

14.0. CLEAN-UP

After completion of the work of this Contract, and before final acceptance of the work will be given, the Contractor shall remove all the Contractor's tools, equipment, temporary structures, surplus materials, trash, empty containers and other evidences of construction from the Contractor's work, parking and storage areas and leave those areas clean to the satisfaction of the Construction Manager.

| DIVISION CODE |   |    |    |    |    |
|---------------|---|----|----|----|----|
| WM            | P | DE | SE | ET | OP |
|               | X |    |    | X  |    |

**Stearns-Roger**  
CORPORATION  
**Engineering Standard**

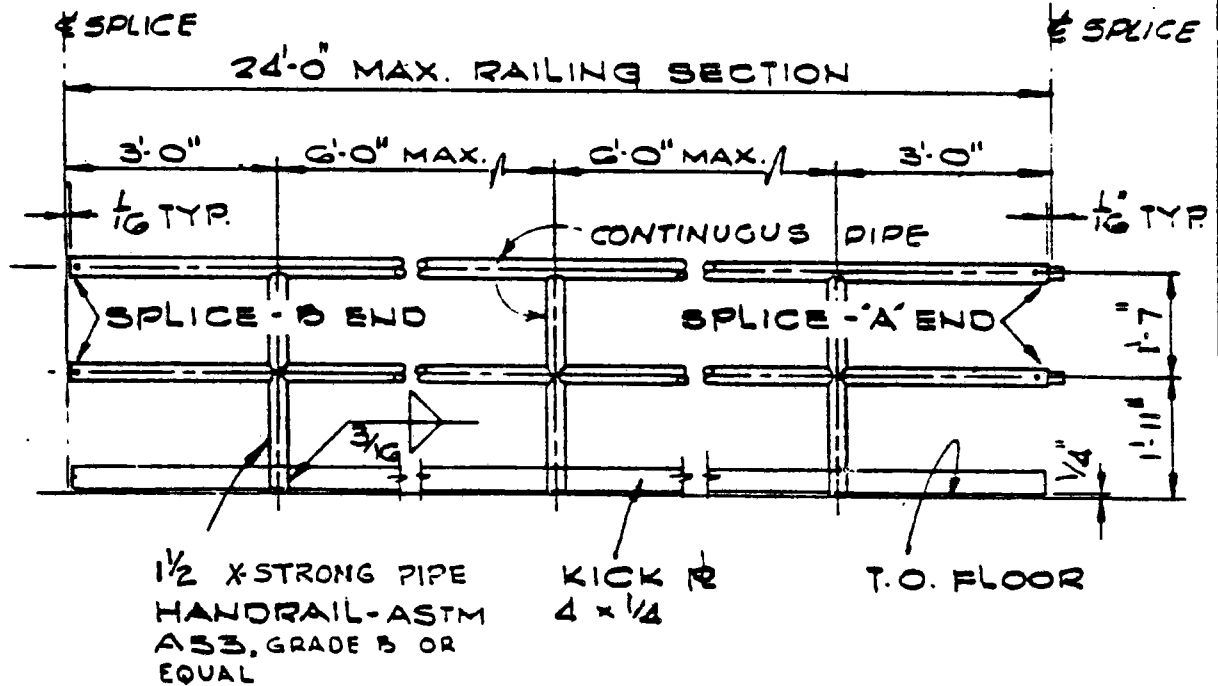
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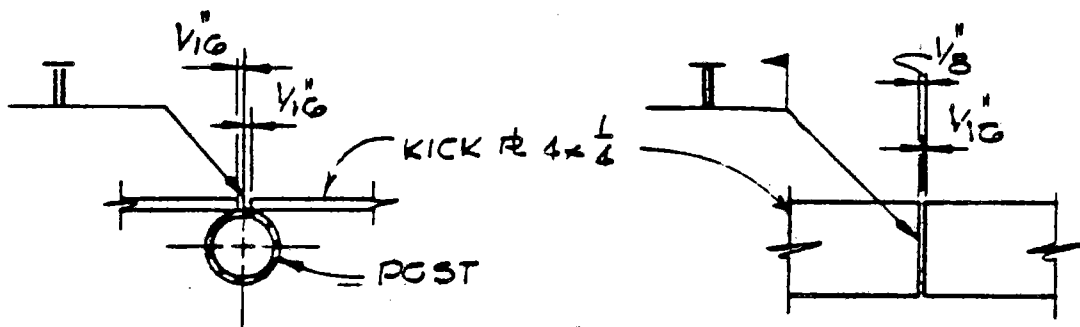
HANDRAIL ELEVATIONS - LEVEL

ISSUED 11/14/69

REVISION 11/30/79



TYPICAL HANDRAIL ELEVATION



SPLICE AT POST

OPEN SPLICE

TYPICAL KICK PLATE SPLICE DETAILS

| DIVISION USAGE |   |    |    |    |    |
|----------------|---|----|----|----|----|
| MM             | P | PP | SH | F1 | SP |
|                | X |    |    |    |    |

# Stearns-Roger

INCORPORATED  
ENGINEERING STANDARD

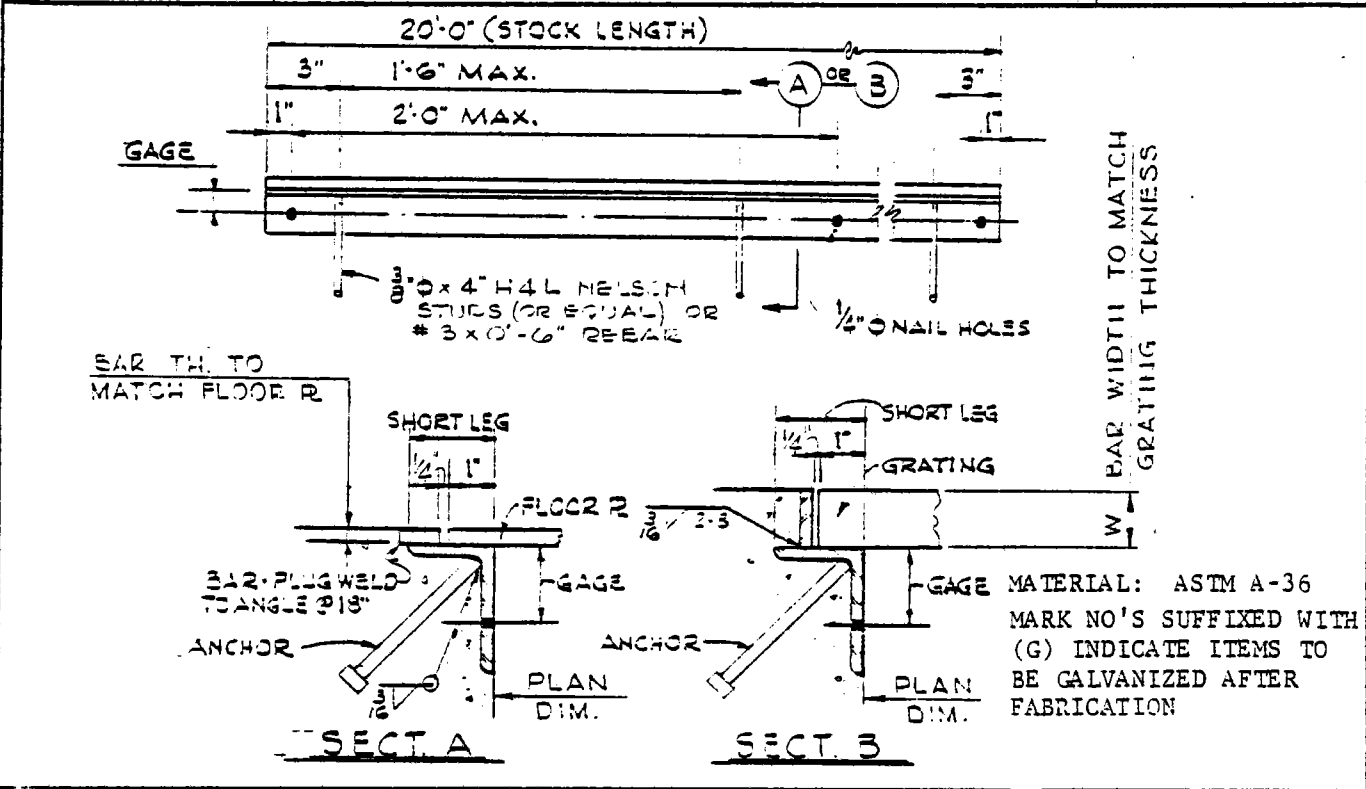
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FB 07.02.1

PAGE 1 OF 1

ISSUED 11/14/69  
REVISED 4/4/77

APPROVALS  
Des. Sect. \_\_\_\_\_  
Sect. Supv. *J. H. J...*  
Div. \_\_\_\_\_

## TRENCH ANGLE "TA"



TAG EACH GROUP WITH MARK AND DWG. NO.

| NO. REQ | MARK  | ANGLE SIZE   | GAGE   | BAR SIZE |      | SECT | LENGTH | WT/FT | REMARKS |
|---------|-------|--------------|--------|----------|------|------|--------|-------|---------|
|         |       |              |        | W        | TH   |      |        |       |         |
|         | TA-1A | 2 x 2 x 1/2" | 1 1/8" | 1"       |      | A    |        |       |         |
|         | TA-1B | 2 x 2 x 1/2" | 1 1/8" |          | 1/2" | B    |        |       |         |
|         | TA-2A | 3 x 2 x 1/2" | 1 3/4" | 1"       |      | A    |        |       |         |
|         | TA-2B | 3 x 2 x 1/2" | 1 3/4" |          | 1/2" | B    |        |       |         |
|         |       |              |        |          |      |      |        |       |         |
|         |       |              |        |          |      |      |        |       |         |
|         |       |              |        |          |      |      |        |       |         |
|         |       |              |        |          |      |      |        |       |         |

| PRINT RECORD |  |  |  |  |  |  | ENG. RECORD |  |    |
|--------------|--|--|--|--|--|--|-------------|--|----|
| DATE         |  |  |  |  |  |  | DRAWN       |  |    |
| FOR          |  |  |  |  |  |  | CHECKED     |  |    |
| REVISED      |  |  |  |  |  |  | APPROVED    |  |    |
| CUSTOMER     |  |  |  |  |  |  | TA(         |  | )  |
| FIELD        |  |  |  |  |  |  |             |  |    |
| INTRA CO.    |  |  |  |  |  |  | PAGE        |  | OF |



| DIVISION USAGE |   |    |    |    |    |
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| MM             | P | PP | SH | FI | SP |
| X              |   |    |    | X  |    |

# Stearns-Roger

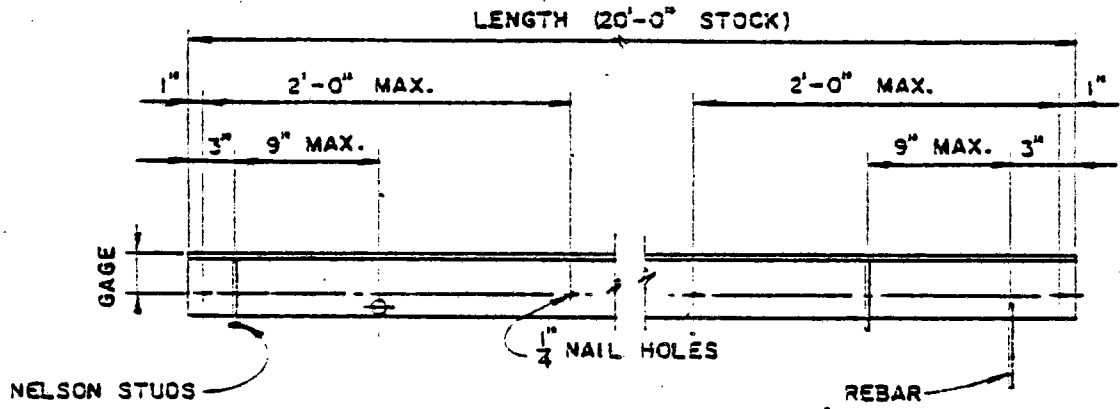
INCORPORATED  
ENGINEERING STANDARD

STANDARD NUMBER  
FB 07.02.3

APPROVALS  
Des. Sect. \_\_\_\_\_  
Sect. Supv. *[Signature]*  
Div. *[Signature]*

## CURB ANGLE "CA"

PAGE 1 OF 1  
ISSUED 11/14/69  
REVISED 4/1/77



3/4" x 4" H41 NELSON STUDS (OR  
EQUAL) OR #3 X 0'-6" REBAR  
PLAN DIM.

ALTERNATE ANCHORS  
FROM LEG TO LEG OF ANGLE

PLAN DIM.

MARK NO'S SUFFLXED WITH (G)  
INDICATE ITEMS TO BE GALVAN-  
IZED AFTER FABRICATION.

MATERIAL: ASTM A-36

TAG EACH GROUP WITH MARK AND DWG. NO.

| NO. REQD | MARK | ANGLE SIZE  | LENGTH | GAGE  | LBS./20'0" | REMARKS |
|----------|------|-------------|--------|-------|------------|---------|
|          | CA 4 | 4 x 4 x 3/8 |        | 2 1/2 | 201.1      |         |
|          | CA 5 | 5 x 5 x 3/8 |        | 3     | 251.1      |         |
|          | CA 6 | 6 x 6 x 3/8 |        | 3 1/2 | 303.1      |         |
|          |      |             |        |       |            |         |
|          |      |             |        |       |            |         |
|          |      |             |        |       |            |         |
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|          |      |             |        |       |            |         |
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|          |      |             |        |       |            |         |
|          |      |             |        |       |            |         |
|          |      |             |        |       |            |         |
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PRINT RECORD

ENG. RECORD

|           |  |  |  |  |  |                             |  |
|-----------|--|--|--|--|--|-----------------------------|--|
| DATE      |  |  |  |  |  | DRAWN                       |  |
| FOR       |  |  |  |  |  | CHECKED                     |  |
| REVISED   |  |  |  |  |  | APPROVED                    |  |
| CUSTOMER  |  |  |  |  |  | CA (                      ) |  |
| FIELD     |  |  |  |  |  |                             |  |
| INTRA CO. |  |  |  |  |  |                             |  |
|           |  |  |  |  |  | PAGE      OF                |  |

| DIVISION USAGE                  |   |    |    |    |    |
|---------------------------------|---|----|----|----|----|
| MM                              | P | PP | SH | FI | SP |
|                                 | X |    |    |    |    |
| APPROVALS                       |   |    |    |    |    |
| Des. Sect. _____                |   |    |    |    |    |
| Sect. Supv. <i>J. B. Hinger</i> |   |    |    |    |    |
| Div. <i>1111</i>                |   |    |    |    |    |

# Stearns-Roger

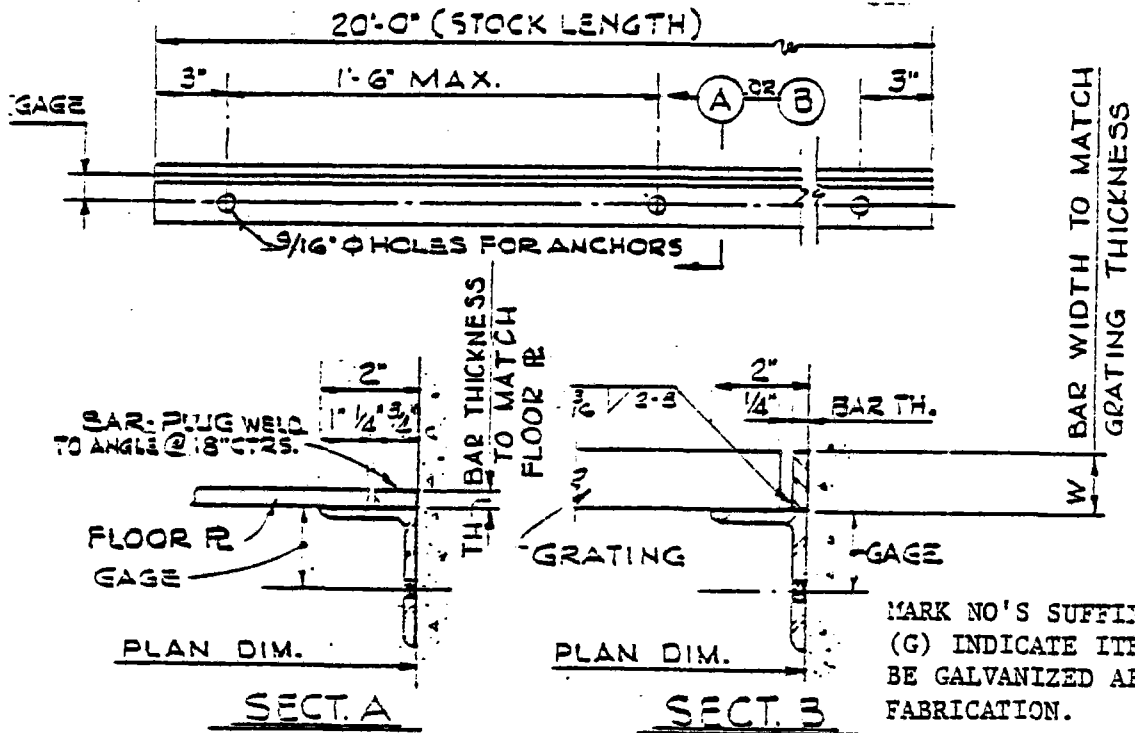
INCORPORATED  
ENGINEERING STANDARD

STANDARD NUMBER  
FB 07.02.5

PAGE 1 OF 1

ISSUED 11/14/69  
REVISED 4/4/77

WALL ANGLE "WA"

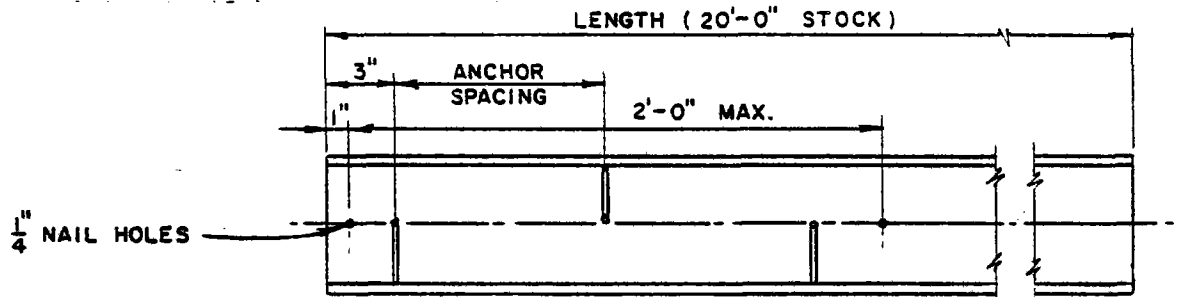


MATERIAL: ASTM A-36

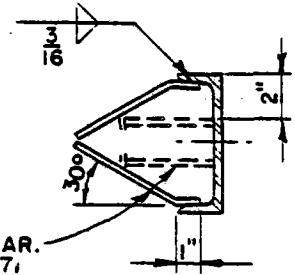
| NO. | REQ | MARK  | ANGLE SIZE  | GAGE   | BAR SIZE |      | SECT | LENGTH | WT./FT. | REMARKS |
|-----|-----|-------|-------------|--------|----------|------|------|--------|---------|---------|
|     |     |       |             |        | W        | TH   |      |        |         |         |
|     |     | WA-1A | 2 x 2 x 1/2 | 1 1/8" | 5/2"     |      | A    |        |         |         |
|     |     | WA-1B | 2 x 2 x 1/2 | 1 1/8" |          | 1/2" | B    |        |         |         |
|     |     | WA-2A | 3 x 2 x 1/2 | 1 3/4" | 3/4"     |      | A    |        |         |         |
|     |     | WA-2B | 3 x 2 x 1/2 | 1 3/4" |          | 1/2" | B    |        |         |         |
|     |     |       |             |        |          |      |      |        |         |         |
|     |     |       |             |        |          |      |      |        |         |         |
|     |     |       |             |        |          |      |      |        |         |         |
|     |     |       |             |        |          |      |      |        |         |         |
|     |     |       |             |        |          |      |      |        |         |         |
|     |     |       |             |        |          |      |      |        |         |         |
|     |     |       |             |        |          |      |      |        |         |         |
|     |     |       |             |        |          |      |      |        |         |         |

| PRINT RECORD |  |  |  |  |  | ENG. RECORD |  |  |  |    |  |
|--------------|--|--|--|--|--|-------------|--|--|--|----|--|
| DATE         |  |  |  |  |  | DRAWN       |  |  |  |    |  |
| FOR          |  |  |  |  |  | CHECKED     |  |  |  |    |  |
| REVISED      |  |  |  |  |  | APPROVED    |  |  |  |    |  |
| CUSTOMER     |  |  |  |  |  | WA (        |  |  |  | )  |  |
| FIELD        |  |  |  |  |  | PAGE        |  |  |  | OF |  |
| INTRA CO.    |  |  |  |  |  |             |  |  |  |    |  |

|                            |   |    |    |    |    |  |                           |
|----------------------------|---|----|----|----|----|--|---------------------------|
| DIVISION USAGE             |   |    |    |    |    | <b>Stearns-Roger</b><br>INCORPORATED<br>ENGINEERING STANDARD | STANDARD NUMBER           |
| MM                         | P | PP | SH | FI | SP |  | FB 07.03.1                |
| APPROVALS                  |   |    |    |    |    | CURB CHANNEL "CC"  | PAGE <u>1</u> OF <u>1</u> |
| Des. Sect. _____           |   |    |    |    |    |  | ISSUED 11/14/69           |
| Sect. Supv. <i>K. Jung</i> |   |    |    |    |    |  | REVISED 4/1/77            |
| Div. <i>W.M.</i>           |   |    |    |    |    |  |                           |



MARK NO'S SUFFIXED WITH (G)  
INDICATE ITEMS TO BE GALVANIZED  
AFTER FABRICATION.



3/4" x 4" H4 NELSON STUDS (OR EQUAL) OR #3 x 0'-6" REBAR.  
CENTER STUDS OR REBAR ON CHANNELS CC3 THRU CC7,  
CC8 AND LARGER STAGGER STUDS AS SHOWN.

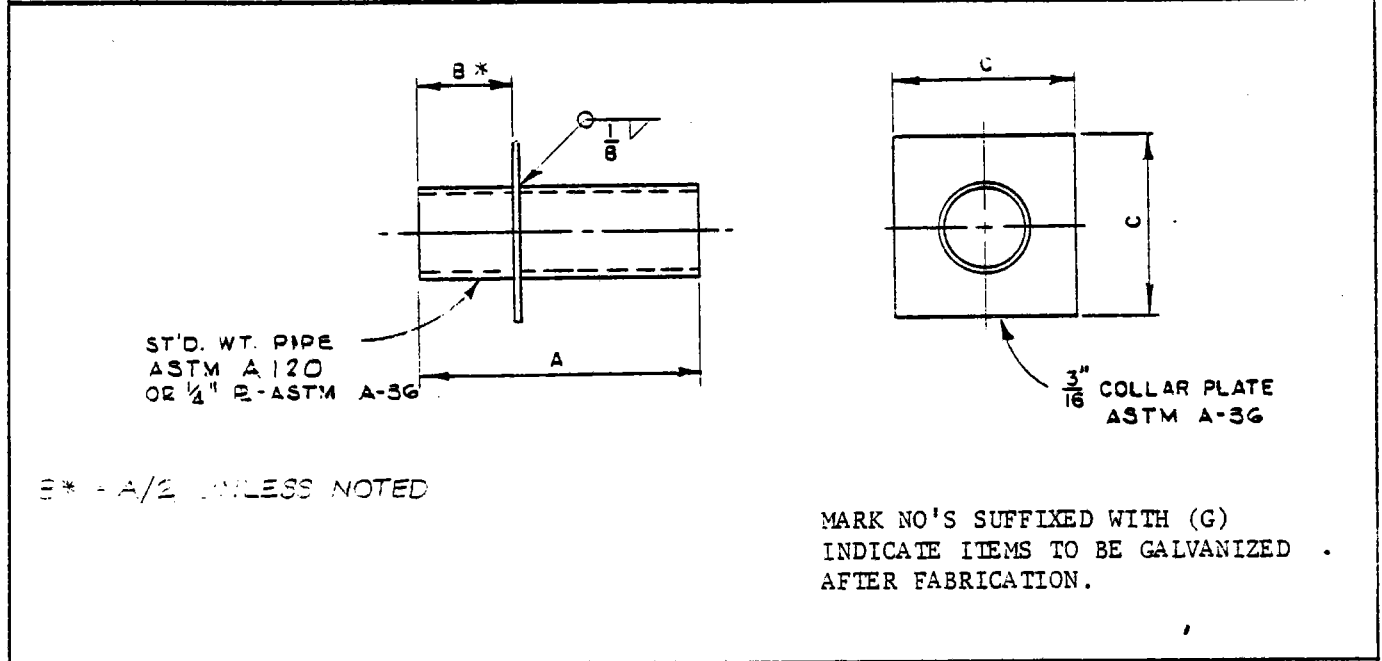
MATERIAL: ASTM A-36

TAG EACH GROUP WITH MARK AND DWG. NO.

| NO. REQD. | MARK  | CHANNEL SIZE | LENGTH | ANCH SPG | WT. LBS./20' | REMARKS |
|-----------|-------|--------------|--------|----------|--------------|---------|
|           | CC 3  | C3x4.1       |        | 18       | 84.6         |         |
|           | CC 4  | C4x5.4       |        | 18       | 110.6        |         |
|           | CC 5  | C5x6.7       |        | 18       | 136.6        |         |
|           | CC 6  | C6x8.2       |        | 18       | 166.6        |         |
|           | CC 7  | C7x9.8       |        | 18       | 198.6        |         |
|           | CC 8  | C8x11.5      |        | 9        | 235.1        |         |
|           | CC 9  | C9x13.4      |        | 9        | 273.1        |         |
|           | CC 10 | C10x15.3     |        | 9        | 311.1        |         |
|           | CC 12 | C12x20.7     |        | 9        | 419.1        |         |

|              |  |  |  |  |  |             |    |
|--------------|--|--|--|--|--|-------------|----|
| PRINT RECORD |  |  |  |  |  | ENG. RECORD |    |
| DATE         |  |  |  |  |  | DRAWN       |    |
| FOR          |  |  |  |  |  | CHECKED     |    |
| REVISED      |  |  |  |  |  | APPROVED    |    |
| CUSTOMER     |  |  |  |  |  | CC ( )      |    |
| FIELD        |  |  |  |  |  | PAGE        | OF |
| INTRA CO.    |  |  |  |  |  |             |    |

|  |  |  |  |  |  |                                   |
|--|--|--|--|--|--|-----------------------------------|
| <b>Stearns-Roger</b><br><small>INCORPORATED</small><br><b>ENGINEERING STANDARD</b> |  |  |  |  |  | STANDARD NUMBER<br>FB 07.04.1     |
| APPROVALS  |  |  |  |  |  | PAGE <u>1</u> OF <u>1</u>         |
| Des. Sect. _____   |  |  |  |  |  | ISSUED 11/14/69<br>REVISED 4/4/77 |
| Sect. Supv. <i>[Signature]</i>   |  |  |  |  |  |                                   |
| Div. <i>[Signature]</i>  |  |  |  |  |  |                                   |
| PIPE SLEEVE "PSP" W/H  |  |  |  |  |  |                                   |



TAG EACH GROUP WITH MARK AND DWG. NO.

| NO. REQ. | MARK      | PIPE SIZE | A | B* | C  | COLLAR WT. | PIPE WT./FT. | WT. TOT. | REMARKS |
|----------|-----------|-----------|---|----|----|------------|--------------|----------|---------|
|          | PSP 1 1/2 | 1 1/2     |   |    | 6  | 1.9        |              |          |         |
|          | PSP 2     | 2         |   |    | 7  | 2.6        |              |          |         |
|          | PSP 3     | 3         |   |    | 8  | 3.4        |              |          |         |
|          | PSP 4     | 4         |   |    | 9  | 4.3        |              |          |         |
|          | PSP 6     | 6         |   |    | 12 | 7.7        |              |          |         |
|          | PSP 8     | 8         |   |    | 14 | 10.4       |              |          |         |
|          | PSP 10    | 10        |   |    | 16 | 13.6       |              |          |         |
|          | PSP 12    | 12        |   |    | 18 | 17.3       |              |          |         |
|          |           |           |   |    |    |            |              |          |         |
|          |           |           |   |    |    |            |              |          |         |
|          |           |           |   |    |    |            |              |          |         |
|          |           |           |   |    |    |            |              |          |         |
|          |           |           |   |    |    |            |              |          |         |
|          |           |           |   |    |    |            |              |          |         |
|          |           |           |   |    |    |            |              |          |         |
|          |           |           |   |    |    |            |              |          |         |

|              |  |  |  |  |  |  |  |  |  |                            |  |
|--------------|--|--|--|--|--|--|--|--|--|----------------------------|--|
| PRINT RECORD |  |  |  |  |  |  |  |  |  | ENG. RECORD                |  |
| DATE         |  |  |  |  |  |  |  |  |  | DRAWN                      |  |
| FOR          |  |  |  |  |  |  |  |  |  | CHECKED                    |  |
| REVISED      |  |  |  |  |  |  |  |  |  | APPROVED                   |  |
| CUSTOMER     |  |  |  |  |  |  |  |  |  | PSP (                    ) |  |
| FIELD        |  |  |  |  |  |  |  |  |  |                            |  |
| INTRA CO.    |  |  |  |  |  |  |  |  |  | PAGE _____ OF _____        |  |

| DIVISION USAGE |   |    |    |    |    |
|----------------|---|----|----|----|----|
| MM             | P | PP | SH | FI | SP |
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**Stearns-Roger**  
INCORPORATED  
ENGINEERING STANDARD

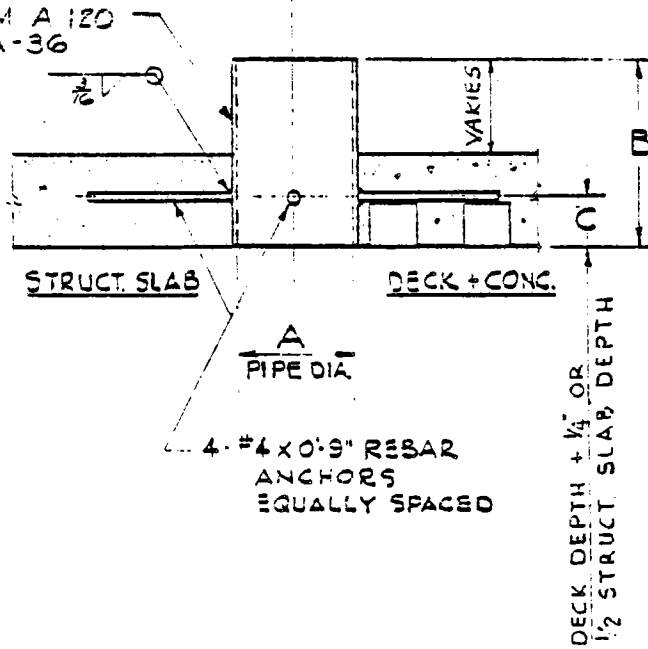
STANDARD NUMBER  
FB 07.04.2

APPROVALS  
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Sect. Supv. *[Signature]*  
Div. *[Signature]*

FLOOR SLEEVE "FS"

PAGE 1 OF 1  
ISSUED 11/14/69  
REVISED 4/4/77

STD. WT. PIPE ASTM A 120  
OR 1/4" R ASTM A-36



MARK NO'S SUFFIXED WITH (G)  
INDICATE ITEMS TO BE GAL-  
VANIZED AFTER FABRICATION.

TAG EACH GROUP WITH MARK AND DWG. NO.

| NO. REQD | MARK  |       | A | B | C | WT. EA. | REMARKS |
|----------|-------|-------|---|---|---|---------|---------|
|          | FL SL | DIA L |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
|          |       |       |   |   |   |         |         |
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| PRINT RECORD |  |  |  |  |  | ENG. RECORD |    |
|--------------|--|--|--|--|--|-------------|----|
| DATE         |  |  |  |  |  | DRAWN       |    |
| FOR          |  |  |  |  |  | CHECKED     |    |
| REVISED      |  |  |  |  |  | APPROVED    |    |
| CUSTOMER     |  |  |  |  |  | FS (        | )  |
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| INTRA CO.    |  |  |  |  |  |             |    |

| DIVISION USAGE                 |   |    |    |    |    |
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| MM                             | P | PP | SH | FI | SP |
|                                | X |    |    |    |    |
| APPROVALS                      |   |    |    |    |    |
| Des. Sect. <i>[Signature]</i>  |   |    |    |    |    |
| Sect. Supv. <i>[Signature]</i> |   |    |    |    |    |
| Div. _____                     |   |    |    |    |    |

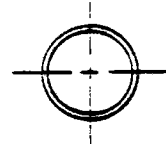
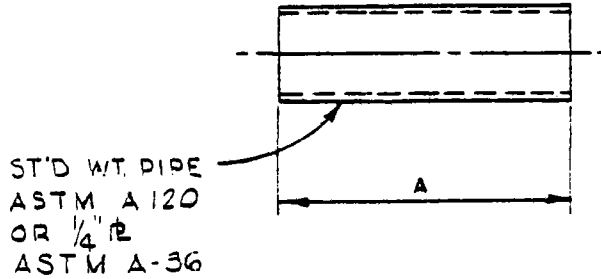
# Stearns-Roger

INCORPORATED  
ENGINEERING STANDARD

STANDARD NUMBER  
FB07.04.4

PAGE 1 OF 1  
ISSUED 11/14/69  
REVISED 4/4/77

PIPE SLEEVE "PS"



MARK NO'S. SUFFIXED WITH (G) INDICATE ITEMS TO BE GALVANIZED AFTER FABRICATION.

TAG EACH GROUP WITH MARK AND DWG. NO.

| NO. REQ | MARK     | PIPE SIZE | A |  |  |  | PIPE WT. / FT. | WT. TOT. | REMARKS |
|---------|----------|-----------|---|--|--|--|----------------|----------|---------|
|         | PS 1 1/2 | 1 1/2     |   |  |  |  |                |          |         |
|         | PS 2     | 2         |   |  |  |  |                |          |         |
|         | PS 3     | 3         |   |  |  |  |                |          |         |
|         | PS 4     | 4         |   |  |  |  |                |          |         |
|         | PS 6     | 6         |   |  |  |  |                |          |         |
|         | PS 8     | 8         |   |  |  |  |                |          |         |
|         | PS 10    | 10        |   |  |  |  |                |          |         |
|         | PS 12    | 12        |   |  |  |  |                |          |         |
|         | PS 14    | 14        |   |  |  |  |                |          |         |
|         | PS 16    | 16        |   |  |  |  |                |          |         |

| PRINT RECORD |  |  |  |  |  |  |  | ENG. RECORD                 |  |
|--------------|--|--|--|--|--|--|--|-----------------------------|--|
| DATE         |  |  |  |  |  |  |  | DRAWN                       |  |
| FOR          |  |  |  |  |  |  |  | CHECKED                     |  |
| REVISED      |  |  |  |  |  |  |  | APPROVED                    |  |
| CUSTOMER     |  |  |  |  |  |  |  | PS (                      ) |  |
| FIELD        |  |  |  |  |  |  |  | PAGE _____ OF _____         |  |
| INTRA CO.    |  |  |  |  |  |  |  |                             |  |

| DIVISION USAGE |   |    |    |    |    |
|----------------|---|----|----|----|----|
| MM             | P | PP | SH | FI | SP |
|                | X |    |    | X  |    |

# Stearns-Roger

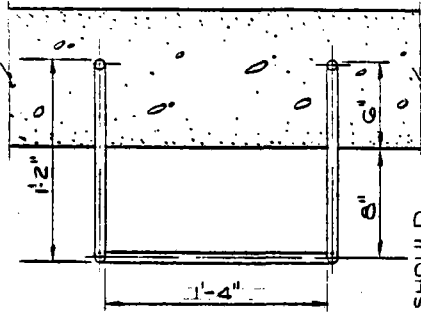
INCORPORATED  
ENGINEERING STANDARD

STANDARD NUMBER  
FB07.05.1T

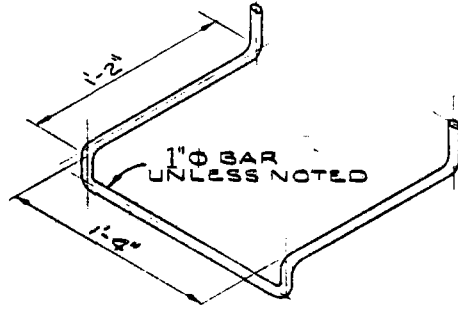
APPROVALS  
Des. Sect. \_\_\_\_\_  
Sect. Supv. *[Signature]*  
Div. *[Signature]*  
C-21700

## INDIVIDUAL-RUNG LADDER BAR "LB"

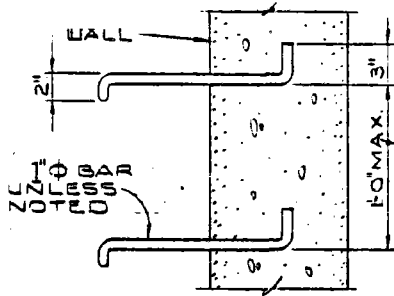
PAGE 1 OF 1  
ISSUED 11/14/69  
REVISED 3/21/80



PLAN



ISOMETRIC



ELEVATION

THIS DISTANCE SHOULD BE UNIFORM THROUGHOUT THE LENGTH OF THE LADDER.

ASTM A-36 UNLESS NOTED. MATERIAL: \_\_\_\_\_

MATERIAL: \_\_\_\_\_

FINISH: \_\_\_\_\_

BAR DIA: \_\_\_\_\_

MARK NO'S SUFFIXED WITH (G) INDICATE ITEMS TO BE GALVANIZED AFTER FABRICATION.

TAG EACH GROUP WITH MARK AND DWG. NO.

| NO. REQ | MARK | WT. LBS. EA. | REMARKS |
|---------|------|--------------|---------|
|         | LB 1 |              |         |
|         |      |              |         |
|         |      |              |         |
|         |      |              |         |
|         |      |              |         |
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| PRINT RECORD |  |  |  |  |  | ENG. RECORD         |  |
|--------------|--|--|--|--|--|---------------------|--|
| DATE         |  |  |  |  |  | DRAWN               |  |
| FOR          |  |  |  |  |  | CHECKED             |  |
| REVISED      |  |  |  |  |  | APPROVED            |  |
| CUSTOMER     |  |  |  |  |  | LB (            )   |  |
| FIELD        |  |  |  |  |  |                     |  |
| INTRA CO.    |  |  |  |  |  | PAGE _____ OF _____ |  |





| DIVISION USAGE |   |    |    |    |    |
|----------------|---|----|----|----|----|
| MM             | P | PP | SH | FI | SP |
|                |   |    |    |    |    |

# Stearns-Roger

INCORPORATED  
ENGINEERING STANDARD

STANDARD NUMBER

FC 20.01.9

APPROVALS  
Des. Sect. \_\_\_\_\_  
Sect. Supv. *W. J. [Signature]*  
Div. *[Signature]*

ROD BOLT "RB" & PLATE WASHER

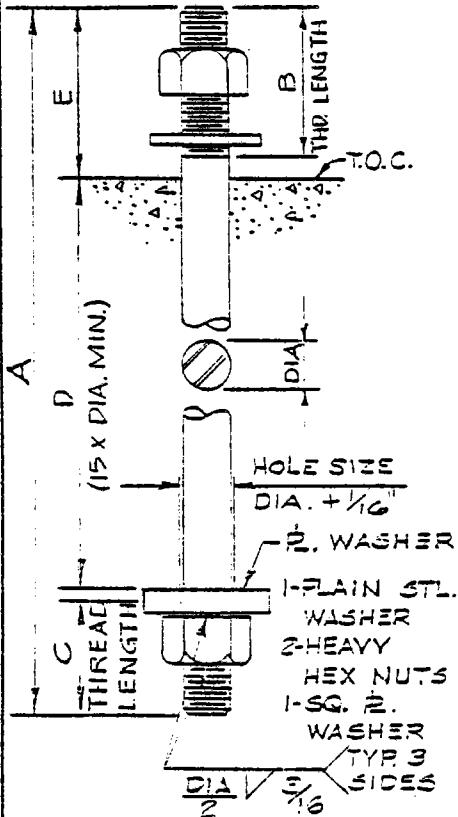
PAGE 1 OF 1

ISSUED 3-31-77

REVISED 4-4-77

TOP OF R. BOLT TO BE FLAT AND CENTER PUNCHED BY FACE

ALL DIMENSIONS IN INCHES  
TAG EACH GROUP WITH MARK AND DWG. NO.



| NO. REQ | MARK   |      | THREAD LENGTH |       |        | EMBED D | PROJ. E | PLATE WASHER |       | REMARKS |
|---------|--------|------|---------------|-------|--------|---------|---------|--------------|-------|---------|
|         | DIA    | TYPE | A             | B     | C      |         |         | SQ. SIZE     | THK.  |         |
|         | 1/4"   | RB   | 3             | 2     | 7 1/2  |         |         | 1 1/2        | 1/8"  |         |
|         | 3/8"   | RB   | 4             | 2 1/2 | 9 1/2  |         |         | 1 1/2        | 1/8"  |         |
|         | 1/2"   | RB   | 4             | 2 1/2 | 11 1/2 |         |         | 2            | 1/8"  |         |
|         | 3/4"   | RB   | 4             | 2 1/2 | 13 1/2 |         |         | 2 1/2        | 1/8"  |         |
|         | 1"     | RB   | 4             | 2 1/2 | 15     |         |         | 2 1/2        | 1/8"  |         |
|         | 1 1/4" | RB   | 5             | 3     | 17     |         |         | 3            | 1/8"  |         |
|         | 1 1/2" | RB   | 5             | 3     | 19     |         |         | 3 1/2        | 1/8"  |         |
|         | 1 3/4" | RB   | 6             | 3     | 21     |         |         | 3 1/2        | 1/8"  |         |
|         | 2"     | RB   | 6             | 3     | 22 1/2 |         |         | 4            | 1/8"  |         |
|         | 2 1/4" | RB   | 6             | 4     | 26 1/2 |         |         | 4 1/2        | 1/8"  |         |
|         | 2 1/2" | RB   | 7             | 4     | 30     |         |         | 5 1/2        | 2     |         |
|         | 2 3/4" | RB   | 7             | 4     | 34     |         |         | 6            | 2 1/2 |         |
|         | 3"     | RB   | 8             | 4     | 37 1/2 |         |         | 6 1/2        | 2 1/2 |         |
|         | 3 1/4" | RB   | 9             | 5     | 41 1/2 |         |         | 7 1/2        | 2 1/2 |         |
|         | 3 1/2" | RB   | 9             | 5     | 45     |         |         | 8            | 3     |         |
|         | 3 3/4" | RB   | 10            | 5     | 49     |         |         | 9            | 3 1/2 |         |
|         | 4"     | RB   | 10            | 5     | 52 1/2 |         |         | 9 1/2        | 3 1/2 |         |
|         | 4 1/4" | RB   | 11            | 6     | 56 1/2 |         |         | 10 1/2       | 3 1/2 |         |
|         | 4 1/2" | RB   | 11            | 6     | 60     |         |         | 11           | 4     |         |
|         | 4 3/4" | RB   | 12            | 6     | 64     |         |         | 11 1/2       | 4 1/2 |         |
|         | 5"     | RB   | 13            | 6     | 67 1/2 |         |         | 12 1/2       | 4 1/2 |         |

SPECIFICATION: ASTM A-307

MATERIAL:

- ROD BOLT-ASTM A-36
- NUTS-ASTM A-307 GR. B
- E. WASHER-ASTM A-36
- PLAIN WASHER-ANSI B18.22.1-1963 (R1973)
- TYPE B, REGULAR
- ELECTRODES-EG016

\* MARK NUMBERS SUFFIXED WITH (G) INDICATE ITEMS TO BE GALVANIZED AFTER FABRICATION AS PER ASTM A15573

| PRINT RECORD |  |  |  |  |  | ENG. RECORD         |  |  |  |  |  |
|--------------|--|--|--|--|--|---------------------|--|--|--|--|--|
| DATE         |  |  |  |  |  | DRAWN               |  |  |  |  |  |
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| CUSTOMER     |  |  |  |  |  | RB ( )              |  |  |  |  |  |
| FIELD        |  |  |  |  |  |                     |  |  |  |  |  |
| INTRA CO.    |  |  |  |  |  | PAGE _____ OF _____ |  |  |  |  |  |

| DIVISION USAGE |   |    |    |    |    |
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# Stearns-Roger

INCORPORATED  
ENGINEERING STANDARD

STANDARD NUMBER  
FC 20.01.10

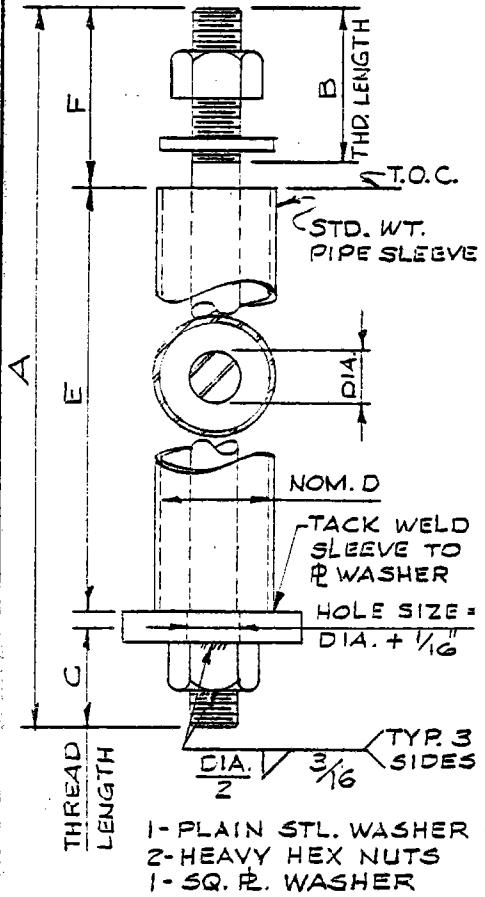
APPROVALS  
Des. Sect. \_\_\_\_\_  
Sect. Supv. \_\_\_\_\_  
Div. \_\_\_\_\_

ROD BOLT "RBS" WITH SLEEVE & PLATE WASHER

PAGE 1 OF 1  
ISSUED 3-31-77  
REVISED 4-4-77

TOP OF R. BOLT TO BE FLAT AND CENTER PUNCHED BY FAB.

ALL DIMENSIONS IN INCHES  
TAG EACH GROUP WITH MARK AND DWG. NO.



| NO. REQ | MARK  |      | THREAD LENGTH |       |       |    | EMBED. F | F PROJ. | PLATE WASHER |      | REMARKS |
|---------|-------|------|---------------|-------|-------|----|----------|---------|--------------|------|---------|
|         | DIA   | TYPE | A             | B     | C     | D  |          |         | SQ. SIZE     | THK. |         |
|         | 3/4   | RBS  | 4             | 2 1/2 | 2 1/2 | 12 |          | 3       | 5/8          |      |         |
|         | 7/8   | RBS  | 4             | 2 1/2 | 2 1/2 | 13 |          | 3 3/4   | 3/4          |      |         |
|         | 1     | RBS  | 4             | 2 1/2 | 2 1/2 | 15 |          | 3 3/4   | 7/8          |      |         |
|         | 1 1/8 | RBS  | 5             | 3     | 2 1/2 | 17 |          | 4       | 7/8          |      |         |
|         | 1 1/4 | RBS  | 5             | 3     | 3     | 19 |          | 4 3/4   | 1            |      |         |
|         | 1 3/8 | RBS  | 6             | 3     | 3     | 21 |          | 5       | 1 1/4        |      |         |
|         | 1 1/2 | RBS  | 6             | 3     | 3     | 23 |          | 5 1/4   | 1 1/4        |      |         |
|         | 1 3/4 | RBS  | 6             | 4     | 4     | 27 |          | 6 1/4   | 1 1/2        |      |         |
|         | 2     | RBS  | 7             | 4     | 4     | 30 |          | 6 3/4   | 1 1/2        |      |         |
|         | 2 1/4 | RBS  | 7             | 4     | 4     | 34 |          | 7 1/4   | 1 3/4        |      |         |
|         | 2 1/2 | RBS  | 8             | 4     | 4     | 38 |          | 7 3/4   | 2            |      |         |
|         | 2 3/4 | RBS  | 9             | 5     | 6     | 42 |          | 9 1/2   | 2 1/4        |      |         |
|         | 3     | RBS  | 9             | 5     | 6     | 45 |          | 10      | 2 1/2        |      |         |
|         | 3 1/4 | RBS  | 10            | 5     | 8     | 49 |          | 12      | 3            |      |         |
|         | 3 1/2 | RBS  | 10            | 5     | 8     | 53 |          | 12 1/2  | 3            |      |         |
|         | 3 3/4 | RBS  | 11            | 6     | 8     | 57 |          | 13      | 3 1/4        |      |         |
|         | 4     | RBS  | 11            | 6     | 8     | 60 |          | 13 1/2  | 3 1/4        |      |         |
|         | 4 1/4 | RBS  | 12            | 6     | 10    | 64 |          | 15 1/2  | 3 3/4        |      |         |
|         | 4 1/2 | RBS  | 13            | 6     | 10    | 68 |          | 16      | 4            |      |         |

**SPECIFICATION-ASTM A307**  
**MATERIAL :**  
ROD BOLT-ASTM A-36  
NUTS-ASTM A-307 GR. B.  
PLATE WASHER ASTM A-36  
PLAIN WASHER-ANSI  
B18.22.1-1965 (R1975)  
TYPE B REGULAR  
ELECTRODES E 6016  
PIPE SLEEVE-ASTM A-120  
OR EQUAL  
\* MARK NUMBERS SUFFIXED  
WITH (G) INDICATE ITEMS TO BE  
GALVANIZED AFTER FABRICAT-  
ION AS PER ASTM A153-73

NOTE: FABRICATOR SHALL SECURELY CENTER ROD BOLT IN PIPE SLEEVE FOR SHIPMENT.

| PRINT RECORD |  |  |  |  |  | ENG. RECORD       |  |
|--------------|--|--|--|--|--|-------------------|--|
| DATE         |  |  |  |  |  | DRAWN             |  |
| FOR          |  |  |  |  |  | CHECKED           |  |
| REVISED      |  |  |  |  |  | APPROVED          |  |
| CUSTOMER     |  |  |  |  |  | RBS ( )           |  |
| FIELD        |  |  |  |  |  | PAGE ____ OF ____ |  |
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| DIVISION USAGE |                                     |    |    |                                     |    |
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# Stearns-Roger

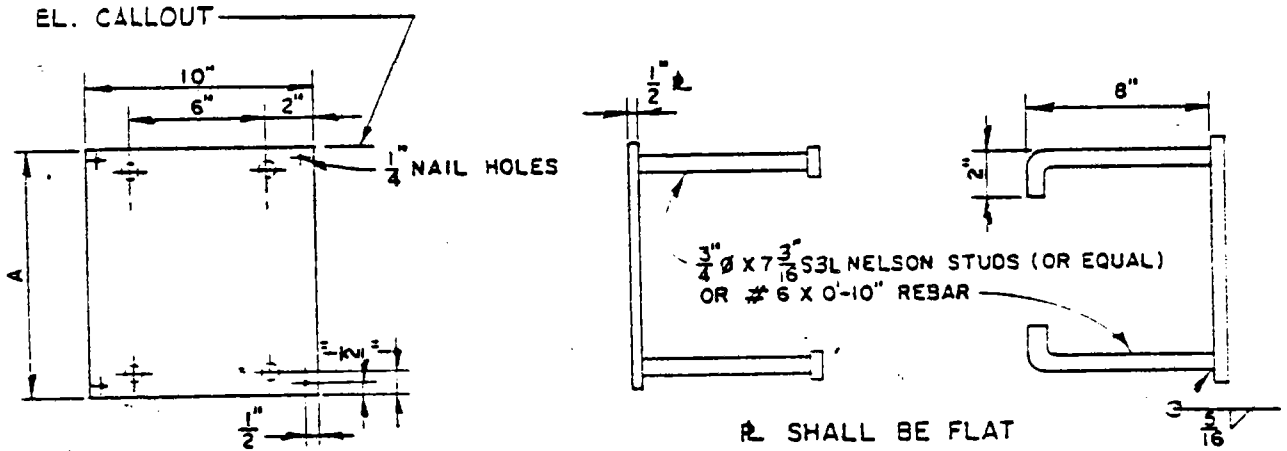
INCORPORATED  
ENGINEERING STANDARD

STANDARD NUMBER  
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APPROVALS  
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Sect. Supv. *[Signature]*  
Div. *[Signature]*

WELD PLATE "WP" - 5 KIP CAPACITY

PAGE 1 OF 1  
ISSUED 11/14/69  
REVISED 4/4/77



MARK NO'S. SUFFIXED WITH (G) INDICATE ITEMS TO BE GALVANIZED AFTER FABRICATION.

MATERIAL: ASTM A-36

TAG EACH GROUP WITH MARK AND DWG. NO.

| NO. REQD. | MARK  | A      | WT. LBS. EA. |       | REMARKS |
|-----------|-------|--------|--------------|-------|---------|
|           |       |        | REBAR        | STUDS |         |
|           | WP 4  | 0'-9"  | 17.7         | 16.7  |         |
|           | WP 6  | 0'-11" | 20.6         | 19.6  |         |
|           | WP 8  | 1'-1"  | 23.4         | 22.4  |         |
|           | WP 10 | 1'-3"  | 26.3         | 25.3  |         |
|           | WP 12 | 1'-5"  | 29.1         | 28.1  |         |
|           | WP 14 | 1'-7"  | 31.9         | 30.9  |         |
|           | WP 16 | 1'-9"  | 34.8         | 33.8  |         |
|           | WP 18 | 1'-11" | 37.6         | 36.6  |         |
|           | WP 21 | 2'-2"  | 41.9         | 40.9  |         |

| PRINT RECORD |  |  |  |  |  |  |  |  |  | ENG. RECORD |    |
|--------------|--|--|--|--|--|--|--|--|--|-------------|----|
| DATE         |  |  |  |  |  |  |  |  |  | DRAWN       |    |
| FOR          |  |  |  |  |  |  |  |  |  | CHECKED     |    |
| REVISED      |  |  |  |  |  |  |  |  |  | APPROVED    |    |
| CUSTOMER     |  |  |  |  |  |  |  |  |  | WP ( )      |    |
| FIELD        |  |  |  |  |  |  |  |  |  |             |    |
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| <b>Stearns-Roger</b><br><small>INCORPORATED</small>              |   |    |    |    |    | STANDARD NUMBER           |  |
| ENGINEERING STANDARD   |   |    |    |    |    | FJ 60.60                  |  |
| DOCUMENTATION REQUIREMENTS                                       |   |    |    |    |    | C-21700                   |  |
| PROJECT: SOLAR ONE   |   |    |    |    |    | ISSUED 7/16/79<br>REVISED |  |
| CONTRACT/REQUISITION NUMBER: CONST. PKG. #7                      |   |    |    |    |    |                           |  |
| TITLE: THERMAL STORAGE & PLANT SUPPORT<br>SUBSYSTEMS FOUNDATIONS |   |    |    |    |    |                           |  |
| DIVISION USAGE   |   |    |    |    |    |                           |  |
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| APPROVALS:   |   |    |    |    |    |                           |  |
| Des. Sec. <i>[Signature]</i>                                     |   |    |    |    |    |                           |  |
| Sect. Supv. <i>[Signature]</i>                                   |   |    |    |    |    |                           |  |
| Div. <i>[Signature]</i>  |   |    |    |    |    |                           |  |

| TYPE OF DOCUMENTATION   | TYPE OF COPIES | FOR REVIEW    |                    | FINAL         |              | REVIEW REQ'D BEFORE FAB.** | CTFY. FINAL ISSUE *** |
|---|----------------|---------------|--------------------|---------------|--------------|----------------------------|-----------------------|
|   |                | NO. OF COPIES | WEEKS AFTER AWARD* | NO. OF COPIES | "X" IF REQ'D |                            |                       |
| <b>1-ENGINEERING DRAWINGS</b>   | Repro-ducibles |               |                    |               |              |                            |                       |
| A-Outline, General Arrangement and Principal Dimensions                 | Prints         |               |                    |               |              |                            |                       |
| B-Cross Sections  |                |               |                    |               |              |                            |                       |
| C-Foundation Requirements, including Loadings & Anchoring Locations     |                |               |                    |               |              |                            |                       |
| D-Physical Locations of Piping and/or Wiring Terminals                  |                |               |                    |               |              |                            |                       |
| E-Control Diagrams  |                |               |                    |               |              |                            |                       |
| F-Electrical Schematic Diagrams   |                |               |                    |               |              |                            |                       |
| G-Wiring Diagrams, Including Internal External and Interconnecting      |                |               |                    |               |              |                            |                       |
| H-Standard Hardware Items   |                |               |                    |               |              |                            |                       |
| <b>2-ERECTION OR INSTALLATION INFO.</b>                                 | Repro-ducibles | 3             |                    | 3             |              |                            |                       |
| A-Shop Fabrication Drawings   | Prints         | 0             | 4                  | 0             | X            |                            | X                     |
| B-Erection or Installation Drawings                                     |                |               | 4                  |               | X            |                            | X                     |
| C-Erection or Install. Instructions                                     | Copies         |               |                    |               |              |                            |                       |
| <b>3-SPECIAL DOCUMENTATION</b>  |                |               |                    |               |              |                            |                       |
| A-Performance Data, including Curves                                    | Copies         |               |                    |               |              |                            |                       |
| B-Design Calculations   | Copies         |               |                    |               |              |                            |                       |
| C-Test Reports ****   | Copies         | 8             | 4                  | 8             | X            |                            |                       |
| D-Code Papers and Certificates  | Copies         |               |                    |               |              |                            |                       |
| E-Shop Fab. and/or Welding Proced.                                      | Copies         |               |                    |               |              |                            |                       |
| F-Shop Fabrication Reports  | Copies         |               |                    |               |              |                            |                       |
| G-Welder's Qualification Reports  | Copies         |               |                    | 8             | X            |                            |                       |
| H-Operating Certificates  | Copies         |               |                    |               |              |                            |                       |
| <b>4-MISCELLANEOUS</b>  |                |               |                    |               |              |                            |                       |
| A-Operation and Maintenance Manuals                                     | Manuals        |               |                    |               |              |                            |                       |
| B-Recommended Spare Parts List for 1 Year's Operation, with Unit Prices | Copies         |               |                    |               |              |                            |                       |
| C-Bills of Material   | Copies         |               |                    | 8             | X#           |                            |                       |
| D-Definitive Drawing List   | Copies         | 8             | 4                  |               |              |                            |                       |

\*-Entries in the column "WEEKS AFTER AWARD" designate which types of review documentation are required. Blank spaces in this column denote that review documentation is not required.

\*\*-"X" in this column means drawing review req'd. before fabric. release.

\*\*\*-"X" in this column means final issue must be certified for construction.

\*\*\*\*-Mill reports required for reinforcing steel and anchor bolt steel.  
-Piping and electrical test reports required.

#-At least 2 weeks before each shipment, detailed Bills of Material shall be sent to the plant site.

This form supplements requirements specified in Article 4.0 in the Specification.

| DIVISION USAGE   |   |   |    |    |   |           | <b>Stearns-Roger</b><br><small>INCORPORATED</small><br><b>ENGINEERING STANDARD</b>    |  |  |  | STANDARD NUMBER |  |
|--|---|---|----|----|---|-----------|---|--|--|--|-----------------|--|
| MM   | P | PP  | SH | FI | SP  | SECOO.BBA |   |  |  |  |                 |  |
|  | X |   |    |    |   |           | <b>PIPING MATERIAL SPECIFICATION "BBA"</b><br><b>CLASS 150 - CARBON STEEL</b>         |  |  |  | PAGE 1 OF 1     |  |
| APPROVALS  |   |   |    |    |   |           |   |  |  |  | ISSUED 8/1/79   |  |
| Des. Sect. _____   |   |   |    |    |   |           |   |  |  |  | REVISED         |  |
| Sect. Supv. _____  |   |   |    |    |   |           |   |  |  |  |                 |  |
| Div. _____   |   |   |    |    |   |           |   |  |  |  |                 |  |
| <b>MAXIMUM ALLOWABLE PRESSURE AND TEMPERATURE FOR SPECIFICATION:</b><br>TEMPERATURE, °F: Up to 100    200    300    400    500    600    700    750    Do not use.<br>PRESSURE, PSIG:            285        260        230        200        170        140        110        95        over 750 F   |   |   |    |    |   |           |   |  |  |  |                 |  |
| PIPE MATERIAL  |   | Seamless Carbon Steel ASTM A106, Grade B  |    |    |   |           |   |  |  |  |                 |  |
| PIPE SCHEDULE  |   | 1/2" thru 2": Schedule 80<br>2-1/2" thru 10": Schedule 40<br>12" thru 24": Standard (0.375" W.T.)                                     |    |    |   |           |   |  |  |  |                 |  |
| VALVES   |   | 2" & Smaller<br>Carbon Steel,<br>Socket Weld<br>Ball V053 (Max 300 F)<br>Check V2731<br>Gate V6012<br>Globe V7568                     |    |    | 2-1/2" & Larger<br>Standard Class 150<br>Carbon Steel,<br>Butt Weld<br>Check V2350<br>Gate V5482<br>Globe V7202 |           |   | 2-1/2" & Larger<br>Class 150<br>Carbon Steel<br>Butterfly(Lug)V104(Max<br>Check(Flgd)V2275 300 F)<br>Gate(Flgd)V5386<br>Globe(Flgd)V7082 |  |  |                 |  |
| PIPE SIZE  |   | 2" & Smaller  |    |    |   |           | 2-1/2" & Larger   |  |  |  |                 |  |
| FITTINGS   |   | ANSI B16.11 Class 3000 Forged Carbon Steel, ASTM A105, Socket Weld  |    |    |   |           | ANSI B16.9 Seamless ASTM A234 Grade WPB, Buttweld, Same Sch. as Pipe                  |  |  |  |                 |  |
| FLANGES*   |   | ANSI B16.5 Class 150 Forged Carbon Steel ASTM A105, RF, Socket Weld, Same Sch. as Pipe  |    |    |   |           | ANSI B16.5 Class 150 Forged Carbon Steel, ASTM A105, RF, Weld Neck, Same Sch. as Pipe |  |  |  |                 |  |
| UNIONS   |   | Class 3000, Forged Carbon Steel, Socket Weld, ASTM A105, Steel/Steel Seats  |    |    |   |           | Flanges as specified above  |  |  |  |                 |  |
| BACKING RINGS  |   | Not Applicable  |    |    |   |           | None Allowed  |  |  |  |                 |  |
| CONSUMABLE INSERT RINGS  |   | Not Applicable  |    |    |   |           | None Allowed  |  |  |  |                 |  |
| BRANCH CONNS.  |   | Socket Weld Tee. (Use ins for reducing.)  |    |    |   |           | Full Size Branch: Tee<br>Branch 2-1/2" & Larger: **<br>Branch 2" & Smaller: **        |  |  |  |                 |  |
| BOLTS  |   | Alloy Bolt Studs ASTM A193 Grade B7, Hex Nuts ASTM A194, Grade 2H, Heavy Weight   |    |    |   |           |   |  |  |  |                 |  |
| GASKETS  |   | ANSI B16.5, Class 150 spiral wound gaskets with 304 stainless steel and asbestos filler and 1/8" carbon steel compression gage rings. |    |    |   |           |   |  |  |  |                 |  |
| <b>NOTES:</b> * Slip-on flanges shall be used for vena contracta type orifices and flanged flow nozzle assemblies.<br>** If butt weld branch connections (ASTM A105) for branch sizes 2-1/2" and larger are not available then reducing tees (ASTM A234, Grade WPB) may be used for up to and including two size reductions. If socket weld branch connections (ASTM A105) for branch sizes 2" and smaller are not available then Class 3000 couplings or half couplings (ASTM A105) may be used. All branch connections shall be designed and reinforced in accordance with ANSI B31.1. |   |   |    |    |   |           |   |  |  |  |                 |  |

| DIVISION USAGE  |   |   |    |    |    | <b>Stearns-Roger</b><br><small>INCORPORATED</small><br><b>ENGINEERING STANDARD</b> | STANDARD NUMBER |
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| MM  | P | PP  | SH | FI | SP |  | SEOO.YIB        |
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| <b>APPROVALS</b><br>Des. Sect. _____<br>Sect. Supv. _____<br>Div. _____   |   |   |    |    |    | <b>PIPING MATERIAL SPECIFICATION "YIB"</b><br><b>DRAINS - CAST IRON</b>            |                 |
|   |   |   |    |    |    | PAGE 1 OF 1<br>ISSUED 8/1/79<br>REVISED  |                 |
| <b>MAXIMUM ALLOWABLE PRESSURE AND TEMPERATURE FOR SPECIFICATION:</b><br><b>USE FOR BELOW GROUND GRAVITY NON-CORROSIVE SERVICE ONLY</b>  |   |   |    |    |    |  |                 |
| <b>PIPE MATERIAL*</b>   |   | Cast Iron, ASTM A74, Hub with Plain End Spigot (ANSI A112.5.1)  |    |    |    |  |                 |
| <b>PIPE WEIGHT</b>  |   | 2" thru 15": Cast Iron: Service Weight  |    |    |    |  |                 |
| <b>BACKWATER VALVES</b>   |   | Horizontal: Extra Heavy Duro Coated Cast Iron Body and Bolted Cover, Renewable Bronze Seat and Disc, Hub and Spigot Ends.<br>Vertical: Cast Iron Housing, Removable Plastic Ball Valve in Bronze Cage, Renewable Rubber Seat, Brass Seat Ring, Threaded Inlet, Spigot Outlet. |    |    |    |  |                 |
| <b>FITTINGS</b>   |   | Cast Iron ASTM A74 Service Weight, Hub and Spigot (ANSI A112.5.1)   |    |    |    |  |                 |
| <b>JOINTS</b>   |   | Compression Type Joints with ASTM C564 Neoprene Service Weight Gaskets, lubricated and installed in accordance with Manufacturer's recommendations.   |    |    |    |  |                 |
| <b>FLOOR DRAINS</b>   |   | Cast Iron, Lacquer Finish, Round Top with Loose Set Anti-tilting Grate, Double Drainage Flange, Weepholes, and Threaded Adjustable Collar, Calked Bottom Outlet and furnished with Service Weight Neoprene Gasket.  |    |    |    |  |                 |
| <b>CLEANOUTS</b>  |   | Cast Iron, Service Weight, Calk-in Type Ferrule, Brass Screw-in Plug, Countersunk Head Type for all Cleanouts.  |    |    |    |  |                 |
| <b>NOTES</b> * Cast iron pipe shall be used to a point at least 5 feet outside building perimeter or major foundation line. Cast iron or clay pipe may be used beyond this point, and the drawings show the correct material requirements.<br><br>Installation shall comply with the Cast Iron Soil Pipe and Fittings Handbook published by the Cast Iron Soil Pipe Institute and all local codes having jurisdiction. Buried soil pipe shall be encased in polyethylene in accordance with ANSI A21.5. |   |   |    |    |    |  |                 |

|                   |   |    |    |    |    |   |                                 |
|-------------------|---|----|----|----|----|---|---------------------------------|
| DIVISION USAGE    |   |    |    |    |    | <b>Stearns-Roger</b><br>ENGINEERING STANDARD                | STANDARD NUMBER                 |
| MM                | P | PP | SH | FI | SP |   | SEO2.1                          |
|                   | X |    |    |    |    |   |                                 |
| APPROVALS         |   |    |    |    |    | COATING<br>(FOR SERVICE TEMPERATURES BETWEEN 126 F - 300 F) | PAGE 1 OF 2                     |
| Des. Sect. _____  |   |    |    |    |    |   | ISSUED 8/1/79<br>REVISED 2/4/80 |
| Sect. Supv. _____ |   |    |    |    |    |   |                                 |
| Div. _____        |   |    |    |    |    |   |                                 |

1. GENERAL

- A. The following coating Specifications are for the exterior surfaces of buried steel piping systems with service temperatures between 126 F - 300 F. Piping is defined as pipe, valves and fittings including bolts, tie-rods, etc.
- B. Piping shall be coated, as specified herein, only when required by the applicable Piping Material Specification or drawings.

2. CLEANING

Exterior surfaces shall be cleaned of all loose scale, dirt and other foreign matter in accordance with the recommendations of the coating manufacturer.

3. COATING

A. General

- a. Application methods and drying time between coats shall be in accordance with the recommendations of the manufacturer of the coating materials. Both the coating applicator and/or pipe supplier shall be aware of all problems related to the proper drying of this special coating.
- b. Mating surfaces of flanges shall not be coated.

B. Coatings

- a. Exterior surface shall be coated with two (2) coats of cold applied mastic. This two (2) coat system shall have a minimum dry film thickness of 40 mils. This coating is recommended for field applications; however, shop application is acceptable provided the following precautions are taken:
- (1) Each field joint shall be left free of coating for a distance of 6 inches from the face of each joint. These exposed exterior surfaces shall be given one (1) shop coat (having a minimum dry thickness of 1.0 mil) of zinc primer prior to shipping.
  - (2) Each length of coated pipe shall be individually supported during storage and shipment.
  - (3) The supplier of coated pipe shall take all other necessary precautions to protect the pipe coating during storage and shipment.
- b. The same materials shall also be used for field joints.

4. INSPECTION

- A. All coatings shall be electrically inspected by the person of firm applying the coating.

|                   |   |    |    |    |    |   |                 |
|-------------------|---|----|----|----|----|---|-----------------|
| DIVISION USAGE    |   |    |    |    |    | <b>Stearns-Roger</b><br>ENGINEERING STANDARD                | STANDARD NUMBER |
| MM                | P | PP | SH | FI | SP |   | SEO2.1          |
|                   | X |    |    |    |    |   |                 |
| APPROVALS         |   |    |    |    |    | COATING<br>(FOR SERVICE TEMPERATURES BETWEEN 126 F - 300 F) | PAGE 2 OF 2     |
| Des. Sect. _____  |   |    |    |    |    |   | ISSUED 8/1/79   |
| Sect. Supv. _____ |   |    |    |    |    |   | REVISED         |
| Div. _____        |   |    |    |    |    |   |                 |

B. Electrical inspection shall be performed with high voltage detection equipment. Test voltage shall be 100 volts per mil of coating thickness.

5. MATERIALS

Materials, as specified herein, shall meet the following minimum requirements:

A. Cold Applied Mastic

- a. Service Temperature: -40 F to +300 F
- b. Water Absorption (24 hrs): 0.2 percent maximum per ASTM D570
- c. Dielectric Strength (30 mil film): 15,000 volts per ASTM E149
- d. Salt Crock Solution (30 days): 1.0 sq. in. average area of disbondment per ASTM G8

Cold applied mastic shall be No. CA1200 as manufactured by the Protecto Wrap Company.

B. Zinc Primer

The zinc primer shall be specially formulated for surfaces which will be welded in the field.

C. Holiday Detection Equipment

High voltage equipment shall be Tinker and Razor Model AP or AP-W.







STMP0-154'



Department of Energy  
San Francisco Operations Office  
1355 Broadway  
Oakland, California 94612

Reply To: DOE Solar One Project Office  
P.O. Box 366  
Daggett, CA 92327

**AUG 16 1984**

Mr. Robert L. Gervais  
Solar One Project Office  
McDonnell Douglas Astronautics Corp.  
P.O. Box 366  
Daggett, CA 92327

Subject: Clearance of Control Contract DE-AC03-79SF10499  
Solar One Reports for DOE/TIC Inclusion.

Dear Bob:

Enclosed are copies of covers and title pages of ten reports prepared by McDonnell Douglas Astronautics Corporation for the Solar One Project under the above referenced contract. In preparation for delivery of these documents to DOE/TIC, I have prepared a SAN form 70 "Request for Patent Clearance" and a DOE form RA-426 "Recommendations for Announcement and Distribution of Documents" for each document.

Please have the appropriate MDAC personnel complete and sign these forms. As agreed, SAN form 70 should be forwarded to SAN/OPC by your office with copies of the completed SAN form 70 and the transmittal letter being sent to me. The completed DOE form RA-426 should be sent directly back to me.

The documents covered by this letter are:

| <u>Primary Document No.</u> | <u>Secondary No.</u> | <u>Brief Title</u>  |
|-----------------------------|----------------------|---|
| DOE/SF/10499-T71S           | STMP0 117            | Construction Package No. 1 - Site Development and Prelim. Earthwork |
| DOE/SF/10499-T73S           | STMP0 123            | Construction Package No. 3 - Warehouse/Maintenance Building         |
| DOE/SF/10499-T75S           | STMP0 143            | Construction Package No. 6 - Collector Subsystem Foundation Const.  |
| DOE/SF/10499-T76S           | STMP0 145            | Construction Package No. 5A - Receiver Tower Structural Steel       |
| DOE/SF/10499-T77S           | STMP0 147            | Construction Package No. 7A - Receiver Tower Foundations            |

|                              |                      |  |
|------------------------------|----------------------|--|
| DOE/SF/10499-T78             | STMPO 149            | Construction Package No. 10A - Plant Support Subsystem Field Erected Tanks                       |
| DOE/SF/10499-T79S            | STMPO 150            | Construction Package No. 11A - Collector Field Electrical  |
| DOE/SF/10499-T80S            | STMPO 152            | Construction Package No. 5 - Structural Steel and Buildings                                      |
| <del>DOE/SF/10499-T81S</del> | <del>STMPO 154</del> | <del>Construction Package No. 7 - Thermal Storage and Plant Support Subsystems Foundations</del> |
| DOE/SF/10499-T82S            | STMPO 156            | Construction Package No. 10 - Thermal Storage Subsystem Field Erected Tanks.                     |

If you should have any questions or concerns please do not hesitate to contact me by telephone at, (619) 254-2672.

Sincerely,



S.D. Elliott, Jr., Director  
DOE Solar One Project Office

SDE/aks  
Project File: CCC006.RNO(SA3)

Encl: Ten Document Covers W/forms 70 and RA-426

cc: Roger Gaither, SAN/OPC  
W.D. Matheny, DOE/TIC  
Mike Lopez, DOE/SAN (FGS)  
Mary Soderstrum, B&McD

DOE AND MAJOR CONTRACTOR RECOMMENDATIONS FOR  
ANNOUNCEMENT AND DISTRIBUTION OF DOCUMENTS

See Instructions on Reverse Side

|  |                                      |  |
|--|--------------------------------------|--|
| 1. DOE Report No. (STMPO 154)<br>DOE/SF/10499-T81S | 2. Contract No.<br>DE-AC03-79SF10499 | 3. Subject Category No.<br>UC-62, 62c, 62d |
|--|--------------------------------------|--|

4. Title Technical Specifications, Thermal Storage and Plant Support Subsystems Foundations, Construction Package No. 7

5. Type of Document ("x" one)

a. Scientific and technical report

b. Conference paper: Title of conference \_\_\_\_\_

\_\_\_\_\_ Date of conference \_\_\_\_\_

Exact location of conference \_\_\_\_\_ Sponsoring organization \_\_\_\_\_

c. Other (specify planning, educational, impact, market, social, economic, thesis, translations, journal article manuscript, etc.)

6. Copies Transmitted ("x" one or more)

a. Copies being transmitted for standard distribution by DOE-TIC.

b. Copies being transmitted for special distribution per attached complete address list.

c. Two completely legible, reproducible copies being transmitted to DOE-TIC. (Classified documents, see instructions)

d. Twenty-seven copies being transmitted to DOE-TIC for TIC processing and NTIS sales.

7. Recommended Distribution ("x" one)

a. Normal handling (after patent clearance): no restraints on distribution except as may be required by the security classification. Make available only

b. To U.S. Government agencies and their contractors.  c. within DOE and to DOE contractors.

d. within DOE.  e. to those listed in item 13 below.

f. Other (Specify) Archive/Issue on request

8. Recommended Announcement ("x" one)

a. Normal procedure may be followed.  b. Recommend the following announcement limitations:

9. Reason for Restrictions Recommended in 7 or 8 above.

a. Preliminary information.  b. Prepared primarily for internal use.  c. Other (Explain)

10. Patent, Copyright and Proprietary Information

Does this information product disclose any new equipment, process or material?  No  Yes If so, identify page nos. \_\_\_\_\_

Has an invention disclosure been submitted to DOE covering any aspect of this information product?  No  Yes

If so, identify the DOE (or other) disclosure number and to whom the disclosure was submitted.

Are there any patent-related objections to the release of this information product?  No  Yes If so, state these objections.

Does this information product contain copyrighted material?  No  Yes

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Does this information product contain proprietary information?  No  Yes If so, identify the page numbers \_\_\_\_\_

("x" one  a. DOE patent clearance has been granted by responsible DOE patent group.

b. Document has been sent to responsible DOE patent group for clearance.

11. National Security Information (For classified document only; "x" one)

Document  a. does  b. does not contain national security information

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Total number of copies reproduced \_\_\_\_\_ Number of copies distributed outside originating organization \_\_\_\_\_

13. Additional Information or Remarks (Continue on separate sheet, if necessary)

14. Submitted by (Name and Position) (Please print or type)

S.D. Elliott, Jr., Director, DOE Solar One Project Office

Organization \_\_\_\_\_

P.O. Box 366, Daggett, CA 92327 (619) 254-2672

|           |      |
|-----------|------|
| Signature | Date |
|-----------|------|



DEPARTMENT OF ENERGY  
 SAN FRANCISCO OPERATIONS OFFICE

CONTRACTOR REQUEST FOR PATENT CLEARANCE  
 FOR RELEASE OF UNCLASSIFIED DOCUMENT

TO: Roger S. Gaither, Asst. Chief for Prosecution  
 Office of Patent Counsel/Livermore Office  
 P.O. Box 808, L-376  
 Livermore, California 94550

FROM: McDonnell Douglas Corporation  
 3855 Lakewood Blvd.  
 Long Beach, CA 90846

|  |
|--|
| Prime Contract No.<br>DE-AC03-79SF10499  |
| Subcontract No.<br>(N/A)   |
| Report No. (STMP0 154)<br>DOE/SF/10499-T81S  |
| Date of Report<br>January 1981   |
| Name & Phone No. of DOE<br>Technical Representative<br>S.D. Elliott, Jr.<br>(619) 254-2672 |

- Document Title: Technical Specifications, Thermal Storage and Plant Support Subsystems Foundations, Construction Package No. 7
- Type of Document:  Technical Report,  Conference Paper,  Journal Article,  Abstract or Summary,  Copy of Oral Presentation,  Other (please specify): \_\_\_\_\_
- In order to meet a publication schedule or submission deadline, patent clearance by \_\_\_\_\_ (Routine) would be desired.

SENDER IS TO CHECK BOX #4 OR #5 BELOW.

- I have reviewed (or have had reviewed by technically knowledgeable personnel) this document for possible inventive subject matter (Subject Inventions) and that no inventions or discoveries (Subject Inventions) are deemed to be disclosed in this document except as stated below:
  - Attention should be directed to pages \_\_\_\_\_ of this document.
  - This document describes matter relating to an invention:
    - Contractor Invention Docket No. \_\_\_\_\_
    - A disclosure of the invention was submitted to DOE on \_\_\_\_\_ (date)
    - A disclosure of the invention will be submitted shortly \_\_\_\_\_ (approximate date)
    - A waiver of DOE's patent rights to the contractor:
  has been granted,  has been applied for; or  will be applied for \_\_\_\_\_ (date)
- This document is being submitted, but no review has been made of this document for possible inventive subject matter. Provide copy of clearance to: Solar One Project Office
- Remarks: P.O. Box 366, Daggett, CA 92327

Reviewing/Submitting Official: Name (Print/Type) \_\_\_\_\_  
 Title \_\_\_\_\_  
 Signature \_\_\_\_\_ Date \_\_\_\_\_

TO: INITIATOR OF REQUEST

FROM: ASSISTANT CHIEF FOR PROSECUTION  
 Office of Patent Counsel/Livermore Office

- No patent objection to above-identified release.
- Please defer release until advised by this office.

Signed \_\_\_\_\_ Date Mailed \_\_\_\_\_

U.S. DEPARTMENT OF ENERGY

DOE AND MAJOR CONTRACTOR RECOMMENDATIONS FOR  
ANNOUNCEMENT AND DISTRIBUTION OF DOCUMENTS

See Instructions on Reverse Side

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| 4. Title <u>Technical Specifications, Thermal Storage and Plant Support Subsystems Foundations, Construction Package No. 7</u>   |                                      |  |
| 5. Type of Document ("x" one)<br><input checked="" type="checkbox"/> a. Scientific and technical report<br><input type="checkbox"/> b. Conference paper: Title of conference _____<br><br>_____ Date of conference _____<br><br>Exact location of conference _____ Sponsoring organization _____<br><input type="checkbox"/> c. Other (specify planning, educational, impact, market, social, economic, thesis, translations, journal article manuscript, etc.)  |                                      |  |
| 6. Copies Transmitted ("x" one or more)<br><input type="checkbox"/> a. Copies being transmitted for standard distribution by DOE-TIC.<br><input type="checkbox"/> b. Copies being transmitted for special distribution per attached complete address list.<br><input checked="" type="checkbox"/> c. Two completely legible, reproducible copies being transmitted to DOE-TIC. (Classified documents, see instructions)<br><input type="checkbox"/> d. Twenty-seven copies being transmitted to DOE-TIC for TIC processing and NTIS sales.   |                                      |  |
| 7. Recommended Distribution ("x" one)<br><input type="checkbox"/> a. Normal handling (after patent clearance): no restraints on distribution except as may be required by the security classification.<br>Make available only <input type="checkbox"/> b. To U.S. Government agencies and their contractors. <input type="checkbox"/> c. within DOE and to DOE contractors.<br><input type="checkbox"/> d. within DOE. <input type="checkbox"/> e. to those listed in item 13 below.<br><input checked="" type="checkbox"/> f. Other (Specify) <u>Archive/Issue on request</u>   |                                      |  |
| 8. Recommended Announcement ("x" one)<br><input checked="" type="checkbox"/> a. Normal procedure may be followed. <input type="checkbox"/> b. Recommend the following announcement limitations:  |                                      |  |
| 9. Reason for Restrictions Recommended in 7 or 8 above.<br><input type="checkbox"/> a. Preliminary information. <input type="checkbox"/> b. Prepared primarily for internal use. <input type="checkbox"/> c. Other (Explain)   |                                      |  |
| 10. Patent, Copyright and Proprietary Information<br>Does this information product disclose any new equipment, process or material? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If so, identify page nos. _____<br>Has an invention disclosure been submitted to DOE covering any aspect of this information product? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes<br>If so, identify the DOE (or other) disclosure number and to whom the disclosure was submitted.<br>Are there any patent-related objections to the release of this information product? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If so, state these objections.<br>Does this information product contain copyrighted material? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes<br>If so, identify the page number _____ and attach the license or other authority for the government to reproduce.<br>Does this information product contain proprietary information? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If so, identify the page numbers _____<br>("x" one <input type="checkbox"/> a. DOE patent clearance has been granted by responsible DOE patent group.<br><input checked="" type="checkbox"/> b. Document has been sent to responsible DOE patent group for clearance. |                                      |  |
| 11. National Security Information (For classified document only; "x" one)<br>Document <input type="checkbox"/> a. does <input type="checkbox"/> b. does not contain national security information  |                                      |  |
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| 13. Additional Information or Remarks (Continue on separate sheet, if necessary)   |                                      |  |
| 14. Submitted by (Name and Position) (Please print or type)<br><u>S.D. Elliott, Jr., Director, DOE Solar One Project Office</u><br>Organization _____<br><u>P.O. Box 366, Daggett, CA 92327 (619) 254-2672</u>   |                                      |  |
| Signature _____  | Date _____                           |  |

H009-M-785

SAN FORM 70 10/80



DEPARTMENT OF ENERGY  
SAN FRANCISCO OPERATIONS OFFICE

CONTRACTOR REQUEST FOR PATENT CLEARANCE  
FOR RELEASE OF UNCLASSIFIED DOCUMENT

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| Prime Contract No.<br>DE-AC03-79SF10499  |
| Subcontract No.<br>(N/A)   |
| Report No. (STMP0 154)<br>DOE/SF/10499-T81S  |
| Date of Report<br>January 1981   |
| Name & Phone No. of DOE<br>Technical Representative<br>S.D. Elliott, Jr.<br>(619) 254-2672 |

TO: Roger S. Gaither, Asst. Chief for Prosecution  
Office of Patent Counsel/Livermore Office  
P.O. Box 808, L-376  
Livermore, California 94550

FROM: McDonnell Douglas Corporation  
3855 Lakewood Blvd.  
Long Beach, CA 90846

- Document Title: Technical Specifications, Thermal Storage and Plant Support Subsystems Foundations, Construction Package No. 7
- Type of Document:  Technical Report,  Conference Paper,  Journal Article,  Abstract or Summary,  Copy of Oral Presentation,  Other (please specify): \_\_\_\_\_
- In order to meet a publication schedule or submission deadline, patent clearance by \_\_\_\_\_ (Routine) would be desired.

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- I have reviewed (or have had reviewed by technically knowledgeable personnel) this document for possible inventive subject matter (Subject Inventions) and that no inventions or discoveries (Subject Inventions) are deemed to be disclosed in this document except as stated below:
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  has been granted,  has been applied for; or  will be applied for \_\_\_\_\_ (date)

5. This document is being submitted, but no review has been made of this document for possible inventive subject matter.

Provide copy of clearance to: Solar One Project Office  
P.O. Box 366, Daggett, CA 92327

6. Remarks:

Reviewing/Submitting Official: Name (Print/Type) Donald L. Royer  
Title Asst. Chief Patent Counsel, MDC (MS 122-23)  
Signature *Donald L. Royer* Date 20 Sep 84

TO: INITIATOR OF REQUEST

FROM: ASSISTANT CHIEF FOR PROSECUTION  
Office of Patent Counsel/Livermore Office

- No patent objection to above-identified release.
- Please defer release until advised by this office.