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INVITATION FOR BIDS
(CONSTRUCTION CONTRACT)

REFERENCE

Invitation No. SCS-10-AZ-80

DATE

May 23, 1980

NAME AND LOCATION OF PROJECT

Buckeye FRS, Site 1, Buckeye
Watershed Project, located approx-
imately 10.5 miles north of Buckeye,
Maricopa County, Arizona

DEPARTMENT OR AGENCY

U. S. Department of Agriculture
Soil Conservation Service

BY (Issuing office) Soil Conservation Service
Room 3008 - Federal Building
230 N. 1st Avenue
Phoenix, AZ 85025

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DIVISION 14.011		REFERENCE
INVITATION FOR BIDS (CONSTRUCTION CONTRACT)		Invitation No. SCS-10-AZ-80
NAME AND LOCATION OF PROJECT Buckeye FRS, Site 1, Buckeye Watershed Project, located approx- imately 10.5 miles north of Buckeye, Maricopa County, Arizona		DATE May 23, 1980
DEPARTMENT OR AGENCY U. S. Department of Agriculture Soil Conservation Service		

BY (Issuing office) Soil Conservation Service
Room 3008 - Federal Building
230 N. 1st Avenue
Phoenix, AZ 85025

Sealed bids in single copy for the work described herein will be received until
1 P.M. local time at the place of bid opening, June 24, 1980
at Room 3008 - Federal Building, 230 N. 1st Avenue, Phoenix, Arizona 85025.

and at that time publicly opened.

Information regarding bidding material, bid guarantee, and bonds

A bid guarantee in an amount not less than 20% of the total bid price must be submitted with each bid in excess of \$25,000, in a form described in Clause 4 of the attached Instructions to Bidders, Standard Form 22.

If a contract is awarded in excess of \$25,000, a Performance Bond and a Payment Bond on forms provided by the Government, in penal sums, 100% and 50% respectively of the original amount of the contract, shall be furnished as provided in Clause 11 of the attached Instruction to Bidders, Standard Form 22.

The following attachments hereto form a part of the Invitation for Bids and any resultant contract: Bid Schedule; General Provisions - Standard Form 23-A; Special Provisions; Labor Standards Provisions - Standard Form 19-A; Disabled Veterans and Veterans of the Vietnam Era - Form Ad-716; Employment of the Handicapped - Form AD-655; Standard Federal Equal Employment Opportunity Construction Contract Specifications; Supplement to OSHA Part 1926 - Construction Standards and Interpretations and Specifications and Drawings listed under "Contents."

Description of work

Construction of 4½ miles of approximately 17½ foot deep embankment drain trench with outlets in the existing Buckeye site 1 Dam.

The work shall be commenced within twenty (20) calendar days and be completed within one hundred and thirty (130) calendar days after the date of receipt of the Notice to Proceed.

Inspection of Worksite: Prospective bidders may assemble at the SCS Buckeye Field Office which is located at 508 N. Fourth Street in Buckeye, Arizona, on Tuesday, June 3, and Tuesday, June 10, 1980 for a group showing of the work site. The group will leave at 10:00 a.m. on each of the above days. Fugro, Inc. Consulting Engineers and Geologists will conduct the group site showing. If you are unable to attend one of the group showings, arrangements to inspect the site may be made with Kenneth M. Euge, Project Manager, Fugro, Inc., P. O. Box 68, Goodyear, Arizona. Phone: 602-932-3800.

C O N T E N T S

Invitation No. SCS-10-AZ-80

INVITATION FOR BIDS - Standard Form 20

INSTRUCTIONS TO BIDDERS - Standard Form 22

SPECIAL INSTRUCTIONS TO BIDDERS

BID FORM - Standard Form 21

REPRESENTATIONS AND CERTIFICATIONS - Standard Form 19-B

REPRESENTATIONS AND CERTIFICATION, Continued

BID SCHEDULE

GENERAL PROVISIONS - Standard Form 23-A

SPECIAL PROVISIONS

LABOR STANDARDS PROVISIONS - Standard Form 19-A

DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA - Form AD-716

EMPLOYMENT OF THE HANDICAPPED - Form AD-655

BID BOND - Standard Form 24

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT
SPECIFICATIONS - Executive Order 11246

SUPPLEMENT TO OSHA PART 1926
CONSTRUCTION STANDARDS AND INTERPRETATIONS

SPECIFICATIONS

<u>NUMBER</u>	<u>TITLE</u>
<u>CONSTRUCTION</u>	
3	Structure Removal
8	Mobilization
10	Water for Construction
11	Removal of Water
21	Excavation
24	Drain Fill
32	Concrete for Minor Structures
34	Steel Reinforcement
400	Pavement Replacement

<u>MATERIAL</u>	<u>NUMBER</u>	<u>TITLE</u>
	521	Aggregates for Drain Fill and Filters
	522	Aggregates for Portland Cement Concrete
	531	Portland Cement
	535	Preformed Expansion Joint Filler
	537	Non-Metallic Waterstops
	538	Metal Waterstops
	539	Steel Reinforcement

DRAWINGS - Attached

Buckeye Site 1 Drain - Drawing No. 79018-AZ-B-7 Sheets

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, certain 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 (including any necessary coinsurance or reinsurance agreements) 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) (including any necessary coinsurance or reinsurance agreements) 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) Modification 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. **Withdrawal of Bids.**—Bids may be withdrawn by written or telegraphic request received from bidders prior to the time set for opening of bids. (See par. 8 regarding late withdrawals.)

8. Late Bids, Modifications of Bids, or Withdrawal of Bids.—(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 identify 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.

NOTE: The term "telegram" includes mailgrams.

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.

SPECIAL INSTRUCTIONS TO BIDDERS

1. Award of Contract. (a) No bid will be considered unless all items in the bid schedule are priced, and only one contract will be awarded unless otherwise stated in the invitation.

(b) The contract will be awarded based on the total bid, corrected if necessary, for errors in price extensions and/or additions. In case of error in extension price, the unit price will govern.

2. Specifications. Specifications referred to herein shall include all revisions and amendments in effect on the date of issuance of the invitation for bids. Information as to where these specifications may be obtained can be acquired from the office issuing the invitation.

3. Records. Records of the site investigations and soil mechanics testing report may be reviewed by prospective bidders by contacting the office issuing this invitation.

4. Workweek - Construction Schedule. The Contractor shall, within ten days after receipt of a written request from the Contracting Officer, and prior to award, submit in writing for approval: (a) a construction schedule showing the order in which he proposes to carry on the work indicating the periods during which he will perform work on each item listed in the bid schedule: and (b) the hours and days he proposes to carry out the work. The maximum workweek that will be approved is ten hours a day, including daily starting and stopping times. Failure to submit the proposed construction schedule, and days and hours of work, within the time specified may be cause for rejection of the bid.

5. The bidder shall enter its DUNS Contractor Establishment Number in the space provided on Standard Form 21, (Rev. 2-79) Bid Form.

6. Reporting Requirements for Construction Contracts over \$10,000.

(a) Standard Form 257 - Monthly Employment Utilization Report.

All prime contractors and subcontractors performing work on Federally-funded projects are required to complete Standard Form 257, listing their aggregate work force in each trade, on all projects both Federally and non-Federally funded in the Plan Area. Each prime and subcontractor must also attach a listing of all projects (both Federal and non-Federal in the Plan Area included herein.) The accompanying list must provide the following information:

1. Name and location of project.
2. Owner of project (city, county, private).
3. Project number, if any.
4. Percent complete
5. Dollar amount of contract.
6. Estimated date of completion.

Prime contractors are responsible for collecting the Standard Form 257 and the listing of all projects (both federal and non-federal in excess of \$10,000) from each of his subcontractors performing work on this project. The prime contractors will then forward their Standard Form 257 and all of their subcontractors' Standard Forms 257 and project list information to:

Associate Regional Administrator for OFCCP/ESA-0
U.S. Department of Labor
450 Golden Gate Avenue - Rm. 11435
San Francisco, California 94102

Failure to submit the Standard Form 257 by the fifth day of each month constitutes non-compliance with Executive Order 11246. Non-compliance is grounds for the issuance of a legal Show Cause Notice for an informal hearing, authorized by OFCCP Rules and Regulations 41 CFR Part 60-1.7. Such a hearing could result in cancellation, termination or suspension of the contract.

(b) Reporting Subcontractors. The prime contractor shall provide written notification to the Associate Regional Administrator 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 following:

1. Name of contractor.
2. Address
3. Telephone Number
4. Employers identification number.
5. Estimated dollar amount of subcontract.
6. Estimated starting and completion dates.
7. Geographical area in which the contract is to be performed; i.e., city, county, state, etc.

Send information to:

Associate Regional Administrator
Office of Federal Contract Compliance Programs - ESA
Department of Labor
450 Golden Gate Avenue - Rm. 11435
San Francisco, California 94102

(c) EEO-1 Reporting Requirements.

1. Each construction prime contractor and first tier subcontractor who has 50 or more employees on total corporate or company payroll and signs a direct Federal or financially-assisted contract or subcontract amounting to \$50,000 or more, shall file annually in triplicate on or before the 31st day of March, complete and accurate reports on Standard Form 100 (EEO-1) to the Joint Reporting Committee.

2. Each contractor or subcontractor required in paragraph 1 above shall submit an EEO-1 to the Joint Reporting Committee and shall also file an EEO-1 to the Office of Federal Contract Compliance Programs, U.S. Department of Labor, 450 Golden Gate Avenue - Rm. 11435, San Francisco, CA 94102, WITHIN 30 DAYS after award of such contract or subcontract as mentioned in paragraph 1 above, UNLESS such contractor or subcontractor has already submitted an EEO-1 report to the Joint Reporting Committee within 12 months preceding the date of award of an SCS Federal or Federally-assisted contract.
 3. Failure to file timely, complete and accurate reports as required in paragraphs 1 and 2 above constitute non-compliance with the contractors or subcontractors obligations under Executive Order 11246, as amended, and is grounds for the imposition by OFCCP of any sanctions authorized by Executive Order 11246 and other rules and regulations issued pursuant thereto.
- (c) Contractors and subcontractors may obtain EEO-1 reporting forms by writing to:

Joint Reporting Committee
2401 E Street N.W.
Washington, D.C. 20506

**BID FORM
(Construction Contract)**

REFERENCE

Invitation No. SCS-10-AZ-80

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

DATE OF INVITATION

May 23, 1980

NAME AND LOCATION OF PROJECT

Buckeye FRS Site 1, Buckeye
Watershed Project, located approx-
imately 10.5 miles north of Buckeye,
Maricopa County, Arizona

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

TELEPHONE NUMBER (Include Area Code)

DATE

TO: Contracting Officer
Soil Conservation Service
230 N. 1st Avenue, Room 3008 - Federal Bldg.
Phoenix, AZ 85025

In compliance with the above-dated invitation for bids, the undersigned hereby proposes to perform all work for
Construction of $4\frac{1}{2}$ miles of approximately $17\frac{1}{2}$ foot deep embankment drain trench
with outlets in the existing Buckeye Site 1 Dam.

in strict accordance with the General Provisions (Standard Form 23-A), Labor Standards Provisions Applicable to
Contracts in Excess of \$2,000 (Standard Form 19-A), specifications, schedules, drawings, and conditions, for the
following amount(s)

TOTAL BID PRICE: \$ _____

Note:

Performance and payment bonds shall be furnished when (1) the contract award
resulting from this bid exceeds \$25,000, or (2) bonds are specifically
required by the Invitation for Bids (Standard Form 20).

DUNS CONTRACTOR ESTABLISHMENT NUMBER

The undersigned agrees that, upon written acceptance of this bid, mailed or otherwise furnished within _____ 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 _____ 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 20 calendar days after the date of receipt of notice to proceed, and to complete the work within 130 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 (Type or print)	FULL NAME OF ALL PARTNERS (Type or print)
BUSINESS ADDRESS (Type or print) (Include "ZIP Code")	
BY (Signature in ink. Type or print name under signature)	
TITLE (Type or print)	

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

CONTRACTING OFFICER
Soil Conservation Service
Room 3008 - Federal Building
230 N. 1st Avenue
Phoenix, AZ 85025

Invitation for Bids No. SCS-10-AZ-80
For opening at 1 p.m., local time at
the place of bid opening, June 24, 1980

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

STANDARD FORM 21 Back (Rev. 2-79)

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)

SCS-10-AZ-80

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)
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(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
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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.

REPRESENTATIONS AND CERTIFICATIONS, Continued

10. The bidder shall complete the following representation for all bids which exceed \$10,000:

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, woman-owned if this information is available.

11. The bidder shall complete the following representation for all bids which exceed \$10,000:

PERCENT OF FOREIGN CONTENT

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

12. By the submission of this bid, each bidder certifies that he understands and agrees to be bound by the equal opportunity requirements of Executive Order 11246, U.S. Department of Labor (OFCCP) Regulations Part 41 CFR 60-1.4 and 60-4. All of which shall be applicable throughout the performance of work under this contract and all other projects both Federally-funded and privately-funded projects in excess of \$10,000. Each bidder agrees that, if awarded this contract, the bidder will include in each subcontract all of the foregoing policies and regulations.

BID SCHEDULE

BUCKEYE WATERSHED - SITE 1 DRAIN

Item	Work or Material	Spec. No.	Quantity	Unit	Unit Price	Amount
1	Mobilization	8	1	Job	\$ <u>XXX</u>	\$ _____
2	Water	10	67.5	m/gal.	\$ _____	\$ _____
3	Trench Excavation, Common	21	34,300	Cu. Yd.	\$ _____	\$ _____
4	Grading	21	1	Job	\$ <u>XXX</u>	\$ _____
5	Drain Fill	24	33,900	Cu. Yd.	\$ _____	\$ _____
	Coarse Aggregate Drain	24	400	Cu. Yd	\$ _____	\$ _____
7	Pavement Replacement	400	42	Sq. Yd.	\$ _____	\$ _____
TOTAL BID					\$ _____	_____

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 designs);
- (2) In the method or manner of performance of the work;
- (3) In the Government-furnished facilities, equipment, materials, services, or site; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written 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 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 1-8.703 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 (f) 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.

SPECIAL PROVISIONS

1. LAND RIGHTS

(a) Adequate land rights needed in order to perform the work under this contract have been acquired by or on behalf of the Government. The right to enter, remove, or otherwise make use of adjacent property, roads, utility lines, fences, and other improvements not included within the land rights provided shall be the sole responsibility of the Contractor.

(b) Where ingress and egress is not defined on the drawings, the Contracting Officer shall designate the right-of-way to be used.

2. RECORDS OF TEST PITS AND BORINGS

The Government does not represent that the available records show completely the existing conditions and does not guarantee any interpretation of these records. The Contractor assumes all responsibility for deductions and conclusions as to the nature of rock and other materials to be excavated, the difficulties of making and maintaining the required excavations and of doing other work affected by the geology of the site of the work, and for the final preparation of the foundations for the spillway, dikes and other structures.

3. MATERIALS TO BE FURNISHED BY THE CONTRACTOR

(a) Unless otherwise specified in this contract, the Contractor shall furnish all materials required for the completion of the contract.

(b) Unless otherwise waived in writing by the Contracting Officer, the Contractor shall furnish the Government with certifications dated and signed by the manufacturer and/or supplier to the effect that the items listed therein meet the requirements of this contract. Such certifications shall be furnished prior to the use of the material in any part of the construction and shall identify the project on which the material is to be used.

4. WATER

Unless otherwise specified in this contract, the Contractor shall provide and maintain at his own expense an adequate supply of water suitable for construction purposes.

5. ACCIDENT PREVENTION AND SAFETY MEASURES

The contractor shall comply with OSHA Part 1926, Construction Standards and Interpretations, in effect on the date of issuance of the invitation for bids and the Soil Conservation Service Supplement to OSHA, which is made a part of the contract.

6. WORKWEEK - CONSTRUCTION SCHEDULE

(a) Unless furnished prior to contract award, the Contractor shall, prior to commencement of work, submit to the Contracting Officer for approval (1) a construction schedule showing the order in which he proposes to carry on the work indicating the periods during which he will perform work on each item listed in the bid schedule; and (2) the hours and days in which he proposes to carry on the work.

(b) If, in the opinion of the Contracting Officer, the Contractor falls behind the approved construction schedule, the Contractor shall take such steps as may be necessary to improve his progress and the Contracting Officer may require him to either increase the number of shifts, days or hours of work, or the amount of construction plant, or all of them, and to submit for approval of such revised construction schedule as may be deemed necessary to show the manner in which the agreed rate of progress will be regained, all without additional cost to the Government. If the Contractor fails to submit a revised construction schedule within the time specified by the Contracting Officer, the Contracting Officer may withhold approval of progress payments and/or take such other actions as provided in this contract until such time as the Contractor submits the required construction schedule.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for determination by the Contracting Officer that the Contractor is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part thereof, in accordance with Clause 5 of the General Provisions.

7. SUBCONTRACTORS

(a) Work shall not be subcontracted in whole or in part without the prior

written approval of the Contracting Officer. The request shall be in writing with the name of the proposed subcontractor and a description of the work to be done.

(b) If at any time the Contracting Officer determines that any subcontractor is incompetent or undesirable, he shall notify the Contractor accordingly and the Contractor shall take immediate steps for cancellation of the subcontract.

(c) Subcontracting by subcontractors shall be subject to the above requirements.

(d) Nothing contained in this contract shall create any contractual relationship between any subcontractor and the Government.

8. SURVEYS

(a) Unless otherwise stated in the Invitation for Bids, only the basic staking shall be done by the Government. If the Government does the staking, the Contractor shall notify the Contracting Officer in advance of any staking required in order that such work can be properly scheduled.

(b) Bench marks shall be preserved by the Contractor, and in the case of their destruction or removal by him or his employees they shall be replaced by the Government at the Contractor's expense.

(c) Survey stakes destroyed or removed by the carelessness of the Contractor or his employees shall be replaced by the Government at the Contractor's expense. Stakes removed or destroyed in the due course of the work shall be replaced by the Government without cost to the Contractor.

(d) If the Contractor finds any errors or omissions in the layout as given by survey points or staking, he shall immediately inform the Contracting Officer, in writing.

9. CLEANUP WORK

(a) During construction the Contractor shall keep the worksite, areas adjacent to the worksite and access roads in an orderly condition, free and clear from debris and discarded materials. Care shall be taken to prevent spillage when hauling is being done. Any spillage or debris resulting from the Contractor's operations shall be immediately removed.

(b) Upon completion of the work the Contractor shall remove from the worksite, areas adjacent to the worksite and access roads: all plant, buildings, debris, unused materials, concrete forms and other material belonging to him or used under his direction during the construction. He shall grade all access roads, other than public, removing wheel tracks and smoothing up such roads.

10. WEATHER

(a) The Contracting Officer may order suspension of the work in whole or in part, commencing with the day after receipt of the Notice to Proceed by the Contractor, due to weather or the effects of weather at the site, for such time as he considers it unfavorable for satisfactory prosecution of the work.

(b) When the Contracting Officer orders suspension under (a) of this clause, the contract completion date shall be extended a full calendar day for each calendar day during suspension of the work if:

- (1) All work is suspended except minor items as may be designated in this contract (work of an emergency, protective or maintenance nature may be performed at any time); and
- (2) The hours lost in any one workday of the authorized workweek through suspension equal one-half or more of the hours of an authorized workday.

(c) If the Contracting Officer orders suspension of work as provided in (b) of this clause and the hours lost in the workday immediately preceding a nonworkday equal one-half or more of the hours in an authorized workday, the contract completion date shall be extended a full calendar day for each nonworkday during suspension of the work.

(d) When the Contracting Officer orders any suspension of the work under this clause, the Contractor shall not be entitled to any cost or damages resulting from such suspension.

(e) When the contract completion date is extended under this clause, the contract shall be modified in writing accordingly.

11. NONCOMPLIANCE WITH CONTRACT REQUIREMENTS

(a) The Contracting Officer may order suspension of the work in whole or in part for such time as he deems necessary because of the failure of the Contractor to comply with any of the requirements of this contract, and the completion date shall not be extended on account of any such suspension of the work.

(b) When the Contracting Officer orders any suspension of the work under (a) of this clause, the Contractor shall not be entitled to any costs or damages resulting from such suspension.

(c) 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.

12. QUANTITY VARIATIONS

(a) Where the quantity of work shown for an item in the bid schedule, including any modification thereof, is estimated, no adjustment of the contract price nor of the performance time shall be made for overruns or underruns which are within 25 percent of the estimated quantity of any such item.

(b) For overruns of more than 25 percent, the Contracting Officer shall re-estimate the quantity for the item, establish an equitable contract price for the overrun of more than 25 percent, adjust contract performance time equitably, and modify the contract in writing accordingly; this clause to thereafter be applicable to the total re-estimated item quantity.

(c) For underruns of more than 25 percent, the Contracting Officer shall determine the quantity for the item, establish an equitable contract price therefor, adjust contract performance time equitably, and modify the contract in writing accordingly.

13. LIQUIDATED DAMAGES

If the work, or any part thereof, is not completed within the time agreed upon in this contract or any extension thereof, the Contractor shall be liable to the Government in the amount of \$915.00 per day for each and every calendar day the completion of the work is delayed beyond the time provided in this contract, as fixed and agreed liquidated damages and not as a penalty; and the Government shall have the right to deduct from and retain out of moneys which may be then due or which may become due and payable to the Contractor, the amount of such liquidated damages; and if the amount so retained by the Government is insufficient to pay in full such liquidated damages, the Contractor shall pay to the Government the amount necessary to effect payment in full of such liquidated damages.

14. WATER AND VEGETATIVE QUALITY

(a) Water quality - the Contractor is required to adhere to the "Policy on Construction and Related Activities in Water" adopted April 13, 1977 by the "Water Quality Control Council" of Arizona. The Contractor is required to be responsible for protecting water from pollution with fuels, oils, bituminous, calcium chloride and other harmful materials, and for scheduling operations so as to avoid or minimize muddying and silting of the water. Methods for preventing water pollution include:

- (1) Isolation of the construction area and diverting of surface water by sand dikes.
- (2) Pumping or draining of water from the construction area into settling ponds before returning it to the water.
- (3) Minimizing operation of mechanized equipment in channel water.
- (4) Establishing turn areas, roads, paving areas, temporary building sites, etc., at locations best suited to prevent contamination of water or the destruction of game or fish habitat.
- (5) Providing tanks or barrels to dispose of chemical pollutants including crankcase oil, transmission grease or oil, greases, soaps, etc. All disposal containers shall be removed from the site after construction and placed where pollutants will not later enter a live stream.
- (6) Returning the flow of streams as nearly as possible to its location prior to construction.
- (7) Removal of road ramps used for access to the construction areas.

(b) Vegetative quality - the contractor is to be responsible for protecting the vegetative quality of the work area. Methods for the protection include:

- (1) Placing equipment yards in approved areas.
- (2) Providing access to work sites by approved routes that will cause the least erosion and require the removal of a minimum amount of trees.
- (3) Operating mechanized equipment at the job site in a manner that will avoid removal of trees other than those necessary for construction of the measure.
- (4) Limiting the clearing of borrow or quarry areas to that size necessary to obtain materials and operate equipment.

15. MINOR ITEMS OF WORK

The following bid items are designated as minor items of work. These items may be performed without charge to performance time during periods when all other work is suspended if such items are excepted in the suspend work order:

Item No. 1 Mobilization

Item No. 2 Water

Item No. 5 Grading

16. QUANTITIES OF WORK AND MATERIALS

The quantities listed in the bid schedule on which unit prices are requested are estimates only. See clause title "Quantity Variations" of these Special Provisions.

17. PERFORMANCE OF WORK BY CONTRACTOR

The Contractor shall perform on this site, and with his own organization, work equivalent to at least twenty percent (20%) 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 of advantage to the Government, the percentage of work required to be performed by the Contractor may be reduced with the written approval of the Contracting Officer.

18. SUBCONTRACTS

(The provisions of this clause do not apply to firm fixed-priced and fixed price with escalation (economic price adjustment) contracts. The clause does apply to new subcontracts or modifications of existing subcontracts which are necessitated because of unpriced contract changes pursuant to the Changes clause of other provisions of this contract.)

(a) As used in this clause, the term "subcontract" includes purchase orders.

(b) The Contractor shall notify the Contracting Officer reasonably in advance of entering into any subcontract if the Contractor's procurement system has not been approved by the Contracting Officer and if the subcontract:

- (1) Is to be a cost-reimbursement, time and materials, or labor-hour contract which it is estimated will involve an amount in excess of ten thousand dollars (\$10,000) including any fee;
- (2) Is proposed to exceed one hundred thousand dollars (\$100,000); or
- (3) Is one of a number of subcontracts, under this contract, with a single subcontractor for the same or related supplies or services which, in the aggregate, are expected to exceed one hundred thousand dollars (\$100,000).

(c) The advance notification required by paragraph (b) above shall include:

- (1) A description of the supplies or services to be called for by the subcontract;
- (2) Identification of the proposed subcontractor and an explanation of why and how the proposed subcontractor and an explanation of why and how the proposed subcontractor was selected, including the competition obtained;
- (3) The proposed subcontract price, together with the Contractor's cost or price analysis thereof;
- (4) The subcontractor's current, complete, and accurate cost of pricing data and Certificate of Current Cost of Pricing Data, when such data and certificates are required by other provisions of this contract to be obtained from the subcontractor;
- (5) Identification of the type of subcontract to be used;
- (6) A memorandum of negotiation which sets forth the principal elements of the subcontract price negotiations. A copy of this memorandum shall be retained in the Contractor's file for use of Government reviewing authorities. The memorandum shall be in sufficient detail to reflect the most significant considerations controlling the establishment of initial or revised prices. The memorandum should include an explanation of why cost or pricing data was, or was not required, and, if it was not required in the case of any

price negotiation in excess of \$100,000, a statement of the basis for determining that the price resulted from or 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. If cost or pricing data was required, the memorandum shall reflect the extent to which reliance was not placed upon the factual cost or pricing data submitted and the extent to which this data was not used by the Contractor in determining the total price objective and in negotiating the final price. The memorandum shall also reflect the extent to which it was recognized in the negotiation that any cost or pricing data submitted by the subcontractor was not accurate, complete, or current; the action taken by the Contractor and the subcontractor as a result; and the effect, if any, of such defective data on the total price negotiated. Where the total price negotiated differs significantly from the Contractor's total price objective, the memorandum shall explain this difference;

- (7) When incentives are used, the memorandum of negotiation shall contain an explanation of the incentive fee profit plan identifying each critical performance element, management decisions used to quantify each incentive element, reasons for incentives on particular performance characteristics, and a brief summary of trade-off possibilities considered as to cost, performance, and time; and
- (8) The Subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract to be obtained from the subcontractor.

(d) The Contractor shall not enter into any subcontract for which advance notification to the Contracting Officer is required by this clause, without the prior written consent of the Contracting Officer; Provided that the Contracting Officer in his discretion, may ratify in writing any subcontract. Such ratification shall constitute the consent of the Contracting Officer required by this paragraph.

(e) Neither consent by the Contracting Officer to any subcontract or any provisions thereof nor approval of the Contractor's procurement system shall be construed to be a determination of the acceptability of any subcontract price or of any amount paid under any subcontract or to relieve the Contractor of any responsibility for performing this contract, unless such approval or consent specifically provides otherwise.

(f) The Contractor agrees that no subcontract placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis.

19. CLEAN AIR AND WATER

(Applicable only if the contract exceeds \$100,000, or the Contracting Officer has determined that 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 Pub. L. 91-604) and section 308 of the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq., as amended by Publ. L. 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 facility in which the contract is being performed.
- (4) To insert the substance of the provisions of this clause into 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 Pub. L. 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 Pub. L. 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 111(c) or section 111(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. 1857c-7(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 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 requirements 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 or site shall be deemed to be a facility except where the Director, Office of Federal Activities, Environmental Protection Agency, determines that independent facilities are co-located in one geographical area.

20. WAGE RATES

(a) Pursuant to the provisions of the Davis-Bacon Act, as amended (40 U.S.C. 276a through 276a-7), the Secretary of Labor has hereby determined that the wage rates and fringe benefits payments listed herein are prevailing for the described classes of labor and shall be the minimums to be paid under this contract by the Contractors and any subcontractors on the work.

(b) While the wage rates shown in the wage determination are the minimum hourly rates required to be paid during the life of the contract, it is the responsibility of bidders to inform themselves as to the local labor conditions such as the length of workday and workweek, overtime compensation, health and welfare contributions, labor supply, and prospective changes or adjustments in the local wages. The Contractor shall abide by and conform to all applicable laws, executive orders, rules, regulations and orders of Federal agencies authorized to pass upon and determine wage rates. No increase in contract price shall be allowed or authorized an account of payment of wage rates in excess of those listed therein.

THE WAGE DETERMINATION DECISION IS ATTACHED.

21. PAYMENTS TO THE CONTRACTOR

Clause 7, Standard Form 23A is deleted and the following substituted therefor;

(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. 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 ten (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.

(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) If Miller Act (40 U.S.C. 270a-270e) performance or payment bonds are required under this contract, the Government shall pay to the Contractor the total premiums paid by the contractor to obtain the bonds. This payment shall be paid at one time to the contractor together with the first progress payment otherwise due after the contractor has (1) furnished the bonds (including coin-surance and reinsurance agreements, when applicable), (2) furnished evidence of full payment to the surety company and (3) submitted a request for such payment. The payment by the Government of the bond premiums to the contractor shall not be made as increments of the individual progress payments and shall not be in addition to the contract price.

(f) 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.

22. CONVICT LABOR

Clause 28, Standard Form 23-A, is deleted and the following substituted therefor:

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.

23. ADMINISTRATION OF THE DIFFERING SITE CONDITIONS CLAUSE

(a) Nature of clause. Clause 4 of the General Provisions, Standard Form 23-A, provides for an equitable adjustment to the Contractor or the Government which reflects the increases or decreases in the Contractor's cost of and time for performance that result from a differing site condition (as that term is defined in the clause) encountered by the Contractor. However, an equitable adjustment is only available to the Contractor if he gives the Contracting Officer a prompt notice in writing before disturbing the conditions (or secures an extension of the time for giving such notice) and asserts the claim before final payment under the contract.

(b) Notice of differing site conditions. When the Contractor believes that a differing site condition has been encountered, the clause requires that a prompt written notice be given to the Contracting Officer so that the condition of the site can be investigated, the facts can be ascertained, and a determination can be made regarding the presence or absence of a differing site condition. The prompt notice requirement enables the Government to examine the condition of the site and, if necessary, (1) to modify the contract so that it will reflect the increased or decreased cost of and time for performance or (2) to develop records concerning any increase or decrease in the cost of and time for performance. Cost and time information is essential for an independent Government judgment regarding an equitable adjustment of the contract. A failure to give a timely notice could prejudice the Government's ability to determine the extent to which the Contractor or the Government is entitled to an equitable adjustment. Since the existence of a differing site condition is not always recognizable immediately the clause provides that the Contracting Officer may extend the time for submission of the required notice.

The purpose of the authority to extend the time for notice is to insure that the contractor is not deprived of the remedy provided by the clause because an inadvertent failure to give the required notice. However, this authority to extend the notice does not entitle the Contractor to a time extension beyond the time when he knew, or reasonably should have known, of the existence of a differing site condition. If the Contractor gives the required notice at the time he knew, or reasonably should have known, he is entitled to an equitable adjustment which reflects the increased costs and time required for performance that result from the differing site condition. If the Contractor fails to submit the required notice to the Contracting Officer by the time he knew, or reasonably should have known, of the existence of a differing site condition, he is not entitled to an equitable adjustment which reflects the increased costs and time required for performance prior to the time when he gave the notice or the time when the Government had actual notice of the existence of a differing site condition.

(c) Processing of Claims:

- (1) Since the time required by the Contractor to ascertain the amount of his claim varies with the circumstances, no specific time for the submission of a claim is specified in the clause. The clause simply states that no claim will be allowed if asserted after final payment. However, the Contractor should not unnecessarily postpone the submission of claims for equitable adjustments.

(2) To prevent the Contractor from unnecessarily postponing the submission of claims, the Contracting Officer shall take the following actions:

(i) When the Contractor gives a prompt written notice of a differing site condition but has not submitted a claim for an equitable adjustment, although there has been a reasonable opportunity to ascertain the amount of the adjustment involved, the Contracting Officer shall send a written request to the Contractor (by registered or certified mail) that he submit within a specified period of time either a written claim or a request for an extension of the time for submission of the claim together with the reasons why the additional time is needed.

(ii) In the event that the Contractor fails to submit a claim within the time specified in the request, or an approved time extension, the Contracting Officer shall make a unilateral determination of the amount of the equitable adjustment which the Contractor is entitled to and shall notify the Contractor of the determination. Such unilateral determination may not be appealed under the Disputes clause of the contract.

24. DISPUTES

Clause 6 and Clause 19 of General Provisions, Standard Form 23-A, April 1975 Edition, are deleted and replaced by the following clause:

(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.

(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 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.

25. PRESERVATION OF HISTORICAL AND ARCHAEOLOGICAL DATA

(a) Public Law 93-291, May 24, 1974, provides for the preservation of historical and archaeological data (including relics and specimens) which might otherwise be lost due to alterations of the terrain as a result of any Federal or Federally-assisted construction project.

(b) The Contractor agrees that should he or any of his employees in the performance of this contract discover evidence of possible historical or archaeological data he will notify the Contracting Officer immediately in writing, giving the location and nature of the findings.

(c) Where appropriate by reason of a discovery, the Contracting Officer may order delays in performance and/or changes in the work. The contract completion data and contract price shall be adjusted in accordance with other applicable provisions of this contract.

(d) The Contractor agrees to insert this clause in all subcontracts which involve the performance of work on the terrain of the site.

26. NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY

Arizona Plan Area Goals and Timetables

Minority Goals

Plan area includes entire state of Arizona. The specific goals for minorities developed for the area are as follows:

<u>Trades</u>	<u>Goals (Percent)</u>
(All trades)	25.0 to 30.0

Goals for Women

<u>All Trades</u>	<u>Goals (Percent)</u>
From 4-1-79 to 3-31-80	5.0
From 4-1-80 to 3-31-81	6.9

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 Employment Clause, specific affirmative action obligations required by specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographical 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.

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.

27. NOTICE

The notice "Equal Employment Opportunity is the Law" is to be displayed in conspicuous places, available to all employees and applicants for employment. It must be similarly displayed by you in the performance of your contract. This notice is available from the contracting office.

28. 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 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 any Federal agency.
- (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 that may be conducted by the Small Business Administration or the contracting agency which may be necessary to determine the extent of the contractor's compliance with this clause.
- (c) (1) The term "small business concern" shall mean a small business as defined pursuant to Section 3 of the Small Business Act and in relevant regulations promulgated pursuant thereto.

(2) The term "small business concern" owned and controlled by socially and economically disadvantaged individuals" shall mean a small business concern--

- (i) 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

- (ii) 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-Pacific Americans, and other 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 as either a small business concern or a small business concern owned and controlled by socially and economically disadvantaged individuals.

29. Small business and small disadvantaged business subcontracting program (Advertised).

- (a) The offeror represents that it is aware:

(1) Of the subcontracting plan requirement in this provision and, if selected for award, it will submit within the time specified by the contracting officer, a subcontracting plan that will afford the maximum practicable opportunity to participate in the performance of the contract to small and small disadvantaged business concerns and will include:

(i) Percentage goals (expressed in terms of percentage of total planned subcontracting dollars) for the utilization as subcontractors of small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals; (For the purposes of the subcontracting plan, the contractor may include all purchases which contribute to the performance of the contract, including a proportionate share of products, services, etc. whose costs are normally allocated as indirect or overhead costs.)

(ii) The name of an individual within the employ of the offeror who will administer the subcontracting program of the offeror and a description of the duties of such individual;

(iii) A description of the efforts the offeror or bidder will take to 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;

(iv) Assurances that the bidder will include the clause entitled Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals in all contracts 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 agreed to by the bidder;

(v) Assurances that the bidder will submit such periodic reports and cooperate in any studies or surveys as may be required by the contracting agency or the Small Business Administration in order to determine the extent of compliance by the bidder with the subcontracting plan; and

(vi) A recitation of the types of records the successful bidder will maintain to demonstrate procedures which have been adopted to comply with the requirements and goals set forth in the 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.

(2) Of the clause entitled Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals in the contract.

(b) If the contracting officer believes that the subcontracting plan submitted pursuant to this Section does not reflect the best effort by the bidder to award subcontracts to small and small disadvantaged firms to the fullest extent consistent with the efficient performance of the contract, he shall notify the agency's director of the Office of Small and Disadvantaged Business Utilization who shall in turn notify the Small Business Administration and request a review of the plan pursuant to Section 8(d)(10) and (11) of the Small Business Act. Such request for an SBA review shall not delay award of the contract. Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the contracting officer in determining the responsibility of the bidder for award of the contract.

(c) The bidder understands that:

(1) It agrees to carry out the government's policy to provide the maximum practicable opportunity for small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals to participate in the performance of the contract, consistent with its efficient performance.

(2) If it does not submit a subcontracting plan within the time limits prescribed by the contracting agency, it will be ineligible to be awarded the contract.

(3) Prior compliance of the bidder with other such subcontracting plans under previous contracts will be considered by the contracting officer in determining the responsibility of the offeror for award of the contract.

(4) It is the contractor's responsibility to develop a subcontracting plan with respect to both small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals.

(d) Subcontracting plans are not required of small business concerns.

(e) The failure of any contractor or subcontractor to comply in good faith with (i) the clause entitled Utilization of Small Business Concerns and Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals, or (ii) the terms of any subcontracting plan required by this Small Business and Small Disadvantaged Business Subcontracting Plan (Advertised) provision, will be a material breach of the contract or subcontract.

(f) Nothing contained in this provision supersedes the requirements of Defense Manpower Policy 4A or any successor policy.

(g) The contracting officer may, in a letter accompanying the solicitation or otherwise, inform the offeror of the goal the Government contemplates for subcontracting to both small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals. Any such letter shall state that the goals are informational only and not legally binding.

32. ORDER OF WORK

The contractor shall pursue all work under the contract in an orderly manner. However the contractor's schedule of operations for construction shall be guided by the following criteria:

- (a) Inspection of the trench face and tracing of cracks will take place prior to drain fill placement operations.
- (b) Placement of auxilliary outlets will be directed by the Engineer.
- (c) No trench shall be left open during the weekend and/or shutdowns in excess of one (1) day.

33. DUST ABATEMENT AND HAUL ROAD MAINTENANCE

Water shall be applied to haul roads and other dust-producing areas as needed to prevent excessive dust to maintain the roads in good condition for efficient operation while they are in use.

34. PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS AND VEGETATION

The Contractor shall conduct his operations in such a manner as to avoid damage to adjacent property, existing improvements or facilities and existing vegetation.

STATE: Arizona
 DECISION NUMBER: AZ79-5100

Supersedes Decision No. AZ78-5114 dated August 11, 1978, in 43 FR 35226.

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.

Basic Hourly Rates	Fringe Benefits Payments			Education and/or Appr. Tr.
	H & W	Pensions	Vacation	
BOILERMAKERS 14.36	1.175	\$ 1.00	1.00	.03
BRICKLAYERS; (Phoenix Area) Bricklayers; Manhole Builders; Stonemasons: Zone A: 0-35 miles from the City Hall in Phoenix Flagstaff and Yuma 12.52	.65	1.10		.09
Zone B: 35-50 miles from the City Hall in Phoenix and Williams AFB 13.54	.65	1.10		.09
Zone C: 50-75 miles from the City Hall in Phoenix 14.17	.65	1.10		.09
Zone D: 75-100 miles from City Hall in Phoenix 14.81	.65	1.10		.09
Zone E: 100-200 miles from the City Hall in Phoenix 15.32	.65	1.10		.09
Zone F: 200 miles from the City Hall in Phoenix 16.34	.65	1.10		.09
BRICKLAYERS: (Tucson Area) Bricklayers; Stonemasons Zone A: 0-15 miles from Tucson City Limits 11.22	1.00	.90		.06
Zone B: Over 15 miles to 30 miles from Tucson City Limits. 11.59	1.00	.90		.06
Zone C: Over 30 to 40 miles from Tucson City Limits 11.96	1.00	.90		.06
Zone D: Over 40 miles from Tucson City Limits 12.72	1.00	.90		.06
Manhole Builders: Zone A: 0-15 miles from Tucson City Limits 11.47	1.00	.90		.06
Zone B: 15-30 miles from Tucson City Limits 11.84	1.00	.90		.06
Zone C: 30-40 miles from Tucson City Limits 12.21	1.00	.90		.06
Zone D: Over 40 miles from Tucson City Limits 12.97	1.00	.90		.06

CARPENTERS:

Central and Southern Areas:
Carpenters; Drywall Applicators;
Sawfilers; Shingler Floorlayers
(finish)
Piledriverman
Millwrights

Northern Area:

Carpenters; Drywall Applicator;
Saw Flier; Shingler;
Floorlayers (finish);
Piledriverman
Millwrights

CEMENT MASONS:

Apache, Coconino, Gila, Mohave,
Navajo, Yavapai, Yuma & the
Northern portions of Graham,
Greenlee, Maricopa & Pinal Ctys.
Central & Southern Areas:

Cement Masons
Concrete troweling machine; sawing
and scoring machine; curb and
gutter machine.

Northern Area;

Cement Masons
Concrete troweling machine; sawing
and scoring machine; curb and
gutter machine;

Cochise, Pima, Santa Cruz & the
southern portions of Graham,
Greenlee, Maricopa & Pinal Ctys.

Central & Southern Areas:

Cement Masons
Concrete troweling machine; sawing
and scoring machine; curb and
gutter machine;

Cement Masons (Maricopa County)

Northern Area
Southern Area

ASBESTOS WORKERS:

Zone 1

Zone 2

Zone 3

Zone 4

Zone 5

ELECTRICIANS: (Flagstaff Area):

In the city of Flagstaff, that area
lying in a sq. extending 20 mi.
north-south, east-west of Post
Office; for Williams, Winslow &
Sedona that area covering a sq.
extending 5 mi. north-south, east-
west of the Post Office in each
town. Zone A

Zone B: All territorial jurisdiction
allotted outside of Zone A.

Basic
Hourly
Rates

H & W

Pensions

Vacation

Education
and/or
Appr. Tr.

\$ 11.435
11.74
11.88

\$ 1.075
1.075
1.075

\$ 1.085
1.085
1.085

\$.05
.05
.05

12.36

1.045

1.055

.05

12.645

1.045

1.055

.05

12.775

1.045

1.055

.05

10.21

.95

1.30

.05

10.37

.95

1.30

.05

12.085

.95

1.30

.05

12.245

.95

1.30

.05

10.22

.85

.85

.05

10.385

.85

.85

.05

13.085

.95

1.30

.05

11.44

.95

1.30

.05

14.19

.82

1.30

.03

14.89

.82

1.30

.03

15.09

.82

1.30

.03

15.54

.82

1.30

.03

17.69

.82

1.30

.03

12.80

.69

3%+.88

½%

15.35

.69

3%+.88

½%

ELECTRICIANS: (Globe-Miami Area)

Zone A: the area within 16 road miles beginning where the Southern Pacific Railroad intersects Hwy.

10-70 at Kaiser Crossing

Electricians

Cable Splicers

Zone B: 16-28 miles from above-mentioned base point:

Electricians

Cable Splicers

Zone C: 28-46 miles from above-mentioned base point:

Electricians

Cable Splicers

Zone D: 46 miles and over from above mentioned base point:

Electricians

Cable Splicers

ELECTRICIANS: (Phoenix Area)

Zone A: Beginning at the north-east corner, a line extending southward on Bush Hwy. to McKellips Road a point one mile east of the intersection of State Hwy. 88 and U.S. 60 and 70 near Apache Junction; southward to Baseline Road; west on Baseline Road to the intersection of Baseline Road and Ellsworth Road; south on Ellsworth road to Hunt Hwy; west on Hunt Hwy. to Powers road; a line extending south on Powers road five miles then extending straight west to a point five miles west of I-10, then northwest on a line parallel with I-10 to intersect with Pecos road, west on Pecos road to intersect with Cotton Lane, north on Cotton Lane to Beloit road, east on Beloit road to Airport road. north on Airport road in a straight line to intersect Waddell road: east on Waddell road to intersect with Cotton Lane, north on Cotton Lane to Deer Valley Dr. and east on Deer Valley Dr. to intersect with Bush Hwy. including Luke and Williams AFB.

	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
Electricians	\$ 13.93	\$.60	11%		1%
Cable Splicers	14.18	.60	11%		1%
Electricians	14.67	.60	11%		1%
Cable Splicers	14.92	.60	11%		1%
Electricians	15.30	.60	11%		1%
Cable Splicers	15.55	.60	11%		1%
Electricians	16.05	.60	11%		1%
Cable Splicers	16.30	.60	11%		1%
	13.86	.96	3%+.88		3/4%

ELECTRICIANS:

Zone B: Area outside of Zone A and bounded by a line formed by measuring sixteen (16) road miles from the outer boundaries of an area enclosed by the following boundaries: Power Road on the east, from Hunt Hwy. on the south to one mile south of Pinnacle Peak Road on the north; one mile south of Pinnacle Peak Road to Cotton Lane on the West; Cotton Lane to Pecos Road on the south. Pecos Road to Price Road and from Price Road to Hunt Hwy. on the south. Hunt Hwy. to Powers Road on the east.

\$ 15.86

.96

3%+.88

3/4%

Zone C: Outside edge of Zone B and extended to the outside limits of the Union's jurisdiction

\$ 16.86

.96

3%+.88

3/4%

ELECTRICIANS: (Kingman)

Zone A: The area within the 16th road mile from the City Hall

Electricians

12.04

.96

1%+.70

1/2%

Cable Splicers

12.64

.96

1%+.70

1/2%

Zone B: from the 16th road mile and extend up to and including the 32nd road mile

Electricians

14.15

.96

1%+.70

1/2%

Cable Splicers

14.85

.96

1%+.70

1/2%

Zone C: From the 32nd road mile extending up to the outside limits of the union's jurisdiction

Electricians

15.23

.96

7%+.70

1/2%

Cable Splicers

15.99

.96

7%+.70

1/2%

ELECTRICIANS: (Prescott)

Zone A: The area within 20 road miles from the City Hall

Electricians

12.04

.96

1%+.70

1/2%

Cable Splicers

12.64

.96

1%+.70

1/2%

ELECTRICIANS: (Prescott)
 Zone B: From the 20th
 road mile extending up to
 and including the 32nd
 road mile

Electricians \$ 14.15

Cable Splicers 14.85

Zone C: From the 32nd
 road mile extending to
 the outside limits of the
 union's jurisdiction

Electricians 15.23

Cable Splicers 15.99

ELECTRICIANS: (Tucson &
 Yuma Area) Zone A:

Area within 16 road mile
 from the City Hall in

Tucson, Yuma, Douglas,
 Area within 16 road mile

in center of Town in
 Nogales, Sierra Vista;

Area within the boundaries
 of the incorporated City

limits of Parker, plus
 an area extending from

the south City Limits of
 Parker in a northeasterly

direction to mile post No.
 150 located on State

Hwy. 95, northeast of
 Parker from the Colorado

River on the west, an
 area mile wide paralleling

the Colorado River.

Electricians 13.93

Cable Splicers 14.18

Zone B: Area from the
 outer limits of Zone A

extending up to and
 including 12 road miles

excluding Douglas Area

Electricians 14.67

Cable Splicers 14.92

Zone C; Area from the
 outer limits of Zone

B extending up to and
 including 18 road miles

excluding Douglas Area

Electricians 15.30

Cable Splicers 15.55

Zone D: Area outside
 of Zone C; in Douglas,
 the area outside of

Zone A.

Electricians 16.05

Cable Splicers 16.30

Basic
 Hourly
 Rates

H & W

Pensions

Vacation

and/or
 Appr. Tr.

.96

17+.70

1/2%

.96

17+.70

1/2%

.96

17+.70

1/2%

.96

17+.70

1/2%

.60

11%

1/2%

.60

11%

1/2%

.60

11%

1/2%

.60

11%

1/2%

.60

11%

1/2%

.60

11%

1/2%

.60

11%

1/2%

.60

11%

1/2%

	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
ELEVATOR CONSTRUCTORS	\$ 13.85	\$.895	.69	3%+a	.03
ELEVATOR CONST. HELPERS	9.695	.895	.69	3%+a	.03
ELEVATOR CONSTRUCTORS HELPERS (PROB.)	6.925				
GLAZIERS	11.34	.85	.30		.01
IRONWORKERS:					
Central and Southern Area	12.30	1.34	2.47		.11
Northern Area	14.43	1.34	2.47		.11
LATHERS: (Tucson Area)					
Zone A: 0-30 mi. from Tucson	10.88	.50	.40		
Zone B: 30-40 miles from Tucson	11.38	.50	.40		
Zone C: 40-50 miles from Tucson	11.63	.50	.40		
Zone D: Area outside Zone C	12.38	.50	.40		
LINE CONSTRUCTION:					
Zone 1: Phoenix and Tucson 30 miles radius from center of town:					
Groundmen	10.22	1.00	1.50		½%
Equipment Operator; Powdermen; Mechanics; Linemen; Technicians;	12.07	1.00	+1.50		½%
Crane Operators;	13.60	1.00	1.50		½%
Cable Splicers	14.00		1.50		½%
Zone 1-A: Douglas, Flagstaff, Globe, King- man, Prescott and Yuma 10 mile radius from center of town:					
Groundmen	11.06	1.00	1.50		½%
Equipment Operators; Powdermen; Mechanics Linemen; Technicians;	12.84	1.00	1.50		½%
Crane Operators;	14.42	1.00	1.50		½%
Cable Splicers	14.90	1.00	1.50		½%
Zone 2: Other Areas:					
Groundmen	11.84	1.00	1.50		½%
Equipment Operators; Powdermen; Mechanics; Linemen; Technicians;	13.63	1.00	1.50		½%
Crane Operators;	15.22	1.00	1.50		½%
Cable Splicers	15.65	1.00	1.50		½%
MARBLE WORKERS: (Phoenix Area)	10.91	.65	1.10		.19

	Basic Hourly Rates	Fringe benefits payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
ELECTRICIANS: (Gallup Area-Apache County north of Hwy. #66)					
Electricians	\$ 14.10	\$.60	\$ 3%+.70		½%
Cable Splicers	14.69	.60	3%+.70		½%
LATHERS:					
Maricopa County north of a line crossing the state drawn thru Ajo Randolph & Springerville;	12.49	.75			.06
Maricopa County south of a line crossing the state drawn thru Ajo, Randolph & Springerville.	14.03	.50			
PAINTERS:					
North of a line drawn east & west thru the town of Winkelman, AZ					
Zone A: 0-40 road miles from Court House in Phoenix, Mesa & including Luke & Williams AFB:					
Brush; Roller; Taper; Sandblaster (Nozzleman); Sandblaster (Pot Tender);	10.69	.60	.40		.08
Spray; Paperhangers;	10.94	.60	.40		.08
Creosote Applier	11.02	.60	.40		.08
Swing Stage;					
Brush; Sandblaster	11.09	.60	.40		.08
Spray	11.34	.60	.40		.08
Zone B: 41-60 miles from Court House in Phoenix; Brush; Roller; Taper; Sandblaster (Nozzleman); Sandblaster (Pot Tender);	11.69	.60	.40		.08
Spray; Paperhangers;	11.94	.60	.40		.08
Creosote Applier	12.02	.60	.40		.08
Swing Stage:					
Brush; Sandblaster	12.09	.60	.40		.08
Spray	12.34	.60	.40		.08
Zone C: 61 miles and over from the Court House in Phoenix: Brush; Roller; Taper; Sandblaster (Nozzleman); Sandblaster (Pot Tender);	12.94	.60	.40		.08
Spray; Paperhangers;	13.19	.60	.40		.08
Creosote Applier	13.27	.60	.40		.08
Swing Stage:					
Brush; Sandblaster	13.34	.60	.40		.08
Spray	13.59	.60	.40		.08
South of a line drawn east & west thru the town of Winkelman, AZ					
Brush	11.96	.77	.45		.06
Spray; Sandblaster	12.46	.77	.45		.06
Paperhangers	12.06	.77	.45		.06
Swing Stage (under 40 ft.)					
Brush	12.26	.77	.45		.06
Spray	12.76	.77	.45		.06
Swing Stage (over 40 ft.)					
Brush	12.71	.77	.45		.06
Spray	13.21	.77	.45		.06

	Basic Hourly Rates	Fringe benefits payments			
		H & W	Pensions	Vacation	Education and/or Appr. Tr.
PAINTERS: (Flagstaff Area)					
<u>Zone A: From Flagstaff Courthouse to 20 miles:</u>					
Brush; Soft Floor Layer	\$ 11.60	\$.90	\$.80		\$.20
Brush, steel & bridge	12.10	.90	.80		.20
Spray	12.05	.90	.80		.20
Spray, steel & bridge	12.60	.90	.80		.20
<u>Zone B: 20-35 miles from Courthouse in Flagstaff:</u>					
Brush, Soft Floor Layer	12.35	.90	.80		.20
Brush, steel & bridge	12.85	.90	.80		.20
Spray	12.80	.90	.80		.20
Spray, steel & bridge	13.35	.90	.80		.20
<u>Zone C: 35-80 miles from Courthouse in Flagstaff:</u>					
Brush; Soft Floor Layer	13.35	.90	.80		.20
Brush; Steel & bridge	13.85	.90	.80		.20
Spray	13.80	.90	.80		.20
Spray, steel & bridge	14.35	.90	.80		.20
<u>Zone D: 80 miles and over from Courthouse in Flagstaff:</u>					
Brush; Soft Floor Layer	13.60	.90	.80		.20
Brush; steel & bridge	14.10	.90	.80		.20
Spray	14.05	.90	.80		.20
Spray, steel & bridge	14.60	.90	.80		.20
Plasterer's Tenders	9.51	.92	.98		.10
LATHERS: North of a line crossing the state drawn through Ajo, Randolph & Springerville; except as follows: NE of a line drawn from Springerville to a point 4 miles NE of Keams Canyon					
Mason Tender	12.49	.75			.06
	9.05	.92	.98		.04
ROOFERS: (Tucson Area): Asbestos; Shinglers; Tile & Waterproofing;					
<u>Zone A: 0-44 mi. from Tucson</u>	9.77	.845	.20		.03
<u>Zone B: over 44 mi. from Tucson</u>	11.52	.845	.20		.03
ROOFERS: (Phoenix Area)					
Roofers and Waterproofers	10.16	.845	.20		.02
SHEET METAL WORKERS: (Maricopa Cty.)					
<u>Zone 1: 0-25 miles excluding Luke & Williams AFB</u>	11.70	.90	1.30		.10
<u>Zone 2: 25-50 miles including Luke & Williams AFB</u>	12.35	.90	1.30		.10
<u>Zone 3: 50 miles and over</u>	14.20	.90	1.30		.10
SOFT FLOOR LAYERS: (Phoenix Area)					
<u>Zone A: 0-40 mi. from Courthouse in Phoenix & Flagstaff including Luke & Williams AFB</u>	9.21	.59	.12		.12
<u>Zone B: 41-60 mi. from Courthouse in Phoenix and Flagstaff</u>	10.21	.59	.12		.12
<u>Zone C: 61 miles and over from Courthouse in Phoenix & Flagstaff</u>	10.71	.59	.12		.12

Fringe Benefits

	Basic Hourly Rates	Fringe Benefits			Education and/or Appr. Tr.
		H & W	Pensions	Vacation	
PLASTERERS: (Phoenix Area)					
Zone A: 0-35 miles from Phoenix	\$11.02	.95	1.30		.06
Zone B: 35-60 miles from Phoenix	11.77	.95	1.30		.06
Zone C: 60 miles and over from Phoenix	12.895	.95	1.30		.06
PLASTERERS: (Tucson Area)					
Zone A: 0-30 miles from Tucson	8.57	.35	.60		
Zone B: 30-40 miles from Tucson	9.07	.35	.60		
Zone C: 40-50 miles from Tucson	9.32	.35	.60		
Zone D: 50 miles and over from Tucson	10.07	.35	.60		
PLASTERERS! TENDERS:					
Central and Southern Areas	10.30	.92	1.10		.10
PLUMBERS; Steamfitters:					
FREE ZONE 0-15 miles					
The "Free Zone" (Zone 1) shall be 15 road miles from the stated base points in Flagstaff, Yuma, Tucson and Douglas. The "Free Zone" from Phoenix shall be 15 miles radius from the stated base point. In addition, all areas within the City Limits of Phoenix, Chandler, Scottsdale, Tempe, Glendale, Mesa, Kingman, Havasu City, Prescott, Winslow, and Holbrook will be included as Free Zones. Any work contracted for outside of these zones will be determined from the Phoenix and Tucson basing points.					
Zone 1: 0-15 miles	13.24	.75	1.35		.13
Zone 2: 15-30 miles	13.64	.75	1.35		.13
Zone 3: 30-40 miles	14.09	.75	1.35		.13
Zone 4: 40 miles & over	15.59	.75	1.35		.13

SOFT FLOOR LAYERS: (Maricopa Cty)
 Zone A: 0-40 miles from Court-
 house in Phoenix and including
 Luke & Williams AFB
 Zone B: 41-60 miles from Court-
 House in Phoenix
 Zone C: 61 miles and over

SOFT FLOOR LAYERS: (Tucson Area)
SPRINKLER FITTERS
TERRAZZO WORKERS: Tile Setters;
 Marble Masons; (Tucson Area)
TERRAZZO WORKERS: (Phoenix Area)

FOOTNOTE:

a. Employer contributes 4% of basic hourly rate for 5 years service and 2% basic hourly rate for 6 months to 5 years as vacation pay credit. Six paid Holidays: A- F.

PAID HOLIDAYS:

A-New Years Day; B-Memorial Day; C-Independence Day; D- Labor Day; E-Thanksgiving Day; F-Christmas Day.

LABORERS: (C & S AREAS)

	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
Group 1:	9.06	.92	1.10		.10
Group 2:	9.20	.92	1.10		.10
Group 3:	9.35	.92	1.10		.10
Group 4:	9.47	.92	1.10		.10
Group 5:	9.65	.92	1.10		.10
Group 6:	10.055	.92	1.10		.10
Group 7:	10.745	.92	1.10		.10

LABORERS: (Tunnel & Shaft)

Group 1:	8.605	.92	.98		.10
Group 2:	8.77	.92	.98		.10
Group 3:	8.90	.92	.98		.10
Group 4:	9.26	.92	.98		.10
Group 5:	9.435	.92	.98		.10
Group 5A:	9.685	.92	.98		.10

POWER EQUIPMENT OPERATORS: (Except Piledriving and Steel)

Group 1:	9.66	1.10	1.10		.08
Group 2:	10.06	1.10	1.10		.08
Group 3:	10.55	1.10	1.10		.08

	Basic Hourly Rates	H & W	Pensions	Vacation	Education and/or Appr. Tr.
	\$ 9.21	\$.59	\$.12		\$.12
	10.21	.59	.12		.12
	10.71	.59	.12		.12
	9.25	.38			
	12.74	.75	1.05		.08
	9.27	.90	.85		
	10.91	.65	1.10		.19

POWER EQUIPMENT OPERATORS
(CONTINUED) (C&S AREAS)

	Basic Hourly Rates	H & W	Pensions	Vacation	and/or Appr. Tr.
Group 4:	\$ 11.13	1.10	1.10		.08
Group 5:	11.70	1.10	1.10		.08
Group 5A:	12.03	1.10	1.10		.08
Group 6:	12.39	1.10	1.10		.08
Group 7:	13.04	1.10	1.10		.08

TRUCK DRIVERS:

Group 1:	9.23	.92	1.10		.08
Group 2:	9.37	.92	1.10		.08
Group 3:	9.61	.92	1.10		.08
Group 4:	9.99	.92	1.10		.08
Group 5:	10.16	.92	1.10		.08
Group 5A:	10.36	.92	1.10		.08
Group 6:	10.51	.92	1.10		.08
Group 7:	10.91	.92	1.10		.08
Group 8:	11.505	.92	1.10		.08
Group 8A:	12.21	.92	1.10		.08
Group 8B:	9.84	.92	1.10		.08
Group 8C:	11.88	.92	1.10		.08

LABORERS (N AREA)

Group 1:	9.985	.92	.98		.10
Group 2:	10.115	.92	.98		.10
Group 3:	10.255	.92	.98		.10
Group 4:	10.365	.92	.98		.10
Group 5:	10.535	.92	.98		.10
Group 6:	10.91	.92	.98		.10
Group 7:	11.54	.92	.98		.10

LABORERS (TUNNEL&SHAFT)

Group 1:	10.23	.92	.98		.10
Group 2:	10.395	.92	.98		.10
Group 3:	10.525	.92	.98		.10
Group 4:	10.885	.92	.98		.10
Group 5:	11.06	.92	.98		.10
Group 5A:	11.31	.92	.98		.10

POWER EQUIPMENT OPERATORS
(Except Piledriving &
Steel Erection)

Group 1:	10.555	1.05	1.00		.08
Group 2:	10.925	1.05	1.00		.08
Group 3:	11.385	1.05	1.00		.08
Group 4:	11.915	1.05	1.00		.08
Group 5:	12.445	1.05	1.00		.08
Group 5A:	12.755	1.05	1.00		.08
Group 6:	13.085	1.05	1.00		.08
Group 7:	13.685	1.05	1.00		.08

TRUCK DRIVERS:

	Basic Hourly Rates	H & W	Pensions	Vacation	and/or Appr. Tr.
Group 1:	\$ 10.145	.92	.98		.08
Group 2:	10.275	.92	.98		.08
Group 3:	10.495	.92	.98		.08
Group 4:	10.845	.92	.98		.08
Group 5:	11.005	.92	.98		.08
Group 5A:	11.185	.92	.98		.08
Group 6:	11.325	.92	.98		.08
Group 7:	11.735	.92	.98		.08
Group 8:	12.25	.92	.98		.08
Group 8A:	12.905	.92	.98		.08
Group 8B:	12.595	.92	.98		.08
Group 8C:	10.705	.92	.98		.08

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TRUCK DRIVERS

Group 1: Teamsters; Pickups; Station Wagons; Manhaul driver

Group 2: Dump or flatrack (2 or 3 axle); Water truck (under 2500 gallons); Buggymobile (1 cu. yd. or less); Tiremen; Bus drivers, ambulance driver, self-propelled street sweeper; Warehousemen

Group 3: Dump or flatrack (4 axle); Dumptor or dumpster (less than 7 cu. yd.); Water truck (2500 gallons but less than 4000 gallons)

Group 4: Dumptor or dumpster (7 cu. yd. but less than 16 cu. yd.); Dump or flatrack (5 axle); Water truck (4000 gallons and over); Slurry type equipment or leverman; Flaherty spreader or similar type equipment or leverman; Transit mix (8 cu. yd. or less)

Group 5: Dump or flatrack (6 axle); Transit mis (over 8 cu. yd. but less than 10.5 cu. yd.); Rock truck (i.e. Dart, Euclid and other similar type end dumps, single unit less than 16 cu. yd.)

Group 5-A: Oil Tanker or Spreader and/or Bootman, Retortman or Leverman

Group 6: Transit Mix (over 10.5 cu. yd. but less than 14 cu. yd.); Ross carrier; Fork lift or lift truck; Hydro lift, Swedish crane Iowa 300 and similar type; Concrete pump (when integral part of transit mix truck); Dump or flatrack (7 axle)

Group 7: Dump or Flatrack (8 axles)

Group 8: Off-highway equipment driver including but not limited to: 2 or 4 wheel power unit, i.e., Cat, DW Series, Euclid, International and similar type equipment, transporting material when top loaded or by external means including pulling water tanks, fuel tanks or other applications under Teamster Classifications; Rock trucks (Dart, Euclid, or other similar end dump types (16 cu. yd. and over); Dump or flatrack (9 axles)

Group 8A: Heavy duty mechanis/welder; Body and fender man

Group 8B: Field equipment serviceman or fuel truck driver

Group 8C: Heavy duty mechanis/welder helper

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POWER EQUIPMENT OPERATORS
(Except Piledriving and Steel Erection)

- Group 1: Air compressor operator; Field equipment servicemen helper; Heavy duty repair helper; Heavy duty welder helper; Oiler; Pump operator
- Group 2: Conveyor operator; Generator operator - portable; Power grizzly operator; Self-propelled chip spreading machine - conveyor operator; Watch fireman; Welding machine operator - gasoline and diesel power
- Group 3: Concrete mixer operator - skip type; Dinky operator - (under 20 tons wt.); Driver-moto paver, Slurry seal machine, and similar type equipment; Motor crane driver; Power sweeper operator - self-propelled; Ross carrier or fork lift operator; Skip loader operator - all types with rated capacity 1-1/2 cu. yds. or less; Wheel type tractor operator (Ford, Ferguson, or similar type) with attachments such as fresno, push blade, post hole auger, mower, etc., excluding compacting equipment
- Group 4: A-Frame boom truck or winch truck operator; Asphalt plant firemen; Elevator hoist operator (including Tuskey hoist or similar type; Grade checker (excluding civil engineer); Multiple power concrete saw operator; Pavement breaker, mechanical compactor operator, power propelled; Roller operator - all types - except as otherwise classified; Screed operator; Self-propelled chip spreading machine operator (including Slurry seal machine operator) Stationary pipewrapping and cleaning machine operator; Tugger operator
- Group 5: Aggregate plant operator (including crushing, screening and snad palnts, etc.) Asphalt plant mixer operator; Beltcrete machine; Boring machines operator; Concrete mechanical tamping, spreading or finishing machine (including Clary, Johnson or simila types); Concrete pumps operator; Concrete batch plant operator, all types and sizes; Conductor, brakeman, or handler; Drilling machine, including water wells; Elevating grader operator - all types and sizes (except as otherwise classified); Field equipmen serviceman; Highline cableway signalman; Kolman belt loader operator or similar, with belt width 48" or over; Locomotive engineer (including Dinky - 20 tons wt. and over); Moto-paver and similar type equipment operator; Operating engineer rigger; Pneumatic-t scraper operator (Turnapull, Euclid, Cat, D-W, Hancock and similar equipment) up to and including 12 cu. yds.; Power jumbo form setter operator; Pressure grout machine operator (as used in heavy engineering construction); Road oil mixing machine operator Roller operator - on all types asphalt pavement; Self-propelled compactor, with blade; Skip loader operator - all types with rated capacity over 1-1/2 but less than 4 cu. yd Slip form operator (power driven lifting device for concrete forms); Soil Cement road mixing machine operator - single pass type; Stationary Central generating plant operat rated 300 K.W. or more; Surface heater and planer operator; Travelling pipewrapping machine operator
- Group 5A: Heavy duty mechanic and/or welder; Pneumatic tired scraper, all sizes and ty over 12 cu. yds. up to and including 45 cu. yds. MRC (Turnapull, Euclid, Cat, D-W, Hancock and similar equipment); Tractor operator (Pusher, Bulldozer, Scraper) up to net horsepower rating; Trenching machine opertor

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POWER EQUIPMENT OPERATORS (Cont'd)
(except Piledriving and Steel Erection)

Group 6: Auto-Grade machine (CMI and similar equipment); Boring machine operator (including Mole, Badger and similar type); Concrete Mixer operator-paving type, and mobile mixer; concrete pump operator with boom attachment (truck mounted); Crane operator - crawler and pneumatic type, under 100 ton capacity MRC; Crawler type tractor operator - with boom attachment; Derrick operator; Forklift operator for hoisting personnel; Grade-all operator; Helicopter hoist; Highline cableway operator (less than 20 tons rated capacity); Mass excavator operator (150 Bucyrus Erie and similar types); Mechanical hoist operator (two or more drums); Motor grade operator - any type power blade; Motor grade operator with elevating grader attachment; Mucking machine operator; Overhead crane operator; Pile-driver engineer (portable, stationary or skid rig); Pneumatic-tired scraper operator - all sizes and types (Turnapull, Euclid, Cat, D-W, Hancock and similar equipment over 45 cu. yds., MRC); Power driven ditch lining or ditch trimming machine operator; Skip loader operator - all types with rated capacity 4 cu. yds., but less than 8 cu. yds.; Slip form paving machine operator (including Gunnert, Zimmerman and similar types); Specialized power digger operator - attached to wheel-type tractor; Tower crane (or similar type) operator; Tractor operator (Pusher, Bulldozer, Scraper (400 net horsepower and over); Tugger operator (two or more); Universal equipment operator - Shovel, Backhoe, Dragline, Clamshell, etc. up to 8 cu. yds.

Group 7: Crane operator - pneumatic or crawler (100 ton hoisting capacity and over MRC rating); Helicopter pilot - FAA qualified when used in construction work; Highline cableway operator, over 20 ton rated capacity and using traveling head and tail tower; Remote control earth moving equipment operator; Skip loader operator - all types with rated capacity of 8 cu. yds. or more; Universal equipment - Shovel, Backhoe, Dragline, Clamshell, etc., 8 cu. yds. and over

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LABORERS

- Group 1: All Helpers not herein separately classified; Cesspool Diggers and installers; Chat Box Man; Checker, tool dispatcher; Concrete dump manbelt, pipe and/or hoseman; Dumpman and/or spotter; Fence builder, guard rail builder highway; Form strippers; Labor, general or construction; Landscape gardener and nurseryman; Packing rod steel and pans; Rip rap stoneman; Astro turf layer; Cleanup, Bull gang; Trackman-railroad
- Group 2: Cement finisher tender; Concrete curer (impervious membrane); Cutting torch operator; Fine grader (highway, engineering and sewer work only); Kettleman - Tarman; Power type concrete buggy
- Group 3: Bander; Chucktender (except tunnel); Creosote tieman; Guinea chaser; Powderman helper; Rip-rap stone paver; Sandblaster (pot tender); Spike and wrenchers
- Group 4: Cement dumpers (Skip-type mixer or handling bulk cement); Chain saw machines (clearing and grubbing); Concrete vibrating machines; Cribber and shorer (except tunnel) Floor sanders concrete; Hydraulic jacks, and similar mechanical tools not separately classified herein; Operators and tenders of pneumatic and electric tools; Pipe caulker and/or backup man (pipeline); Pipe wrapper; Pneumatic gopher; Rigger/Signalman (pipeline)
- Group 5: Air and water wash-out nozzleman; Asphalt rakers and ironers, Driller; Grade setter (pipeline); Hand guided trencher and similar operated equipment; Jackhammer and/or pavement breakers; Pipelayers (including but not limited to non-metallic, transite and plastic pipe, water pipe, sewer pipe, drain pipe, underground tile and conduit); Rock slinger; Scaler (using Bos'ns chairs or safety belt); Tampers (mechanical all types); Precast manhole erector
- Group 6: Concrete Cutting Torch; Concrete saw (hand guided); Driller, (core diamond, wagon or air track); Drill doctor and/or air tool repairman; Gunman and mixerman (gunite Sandblaster (nozzleman)
- Group 7: Concrete Road Form Setter; Gunite nozzleman or rodman; Drillers, Joy Mustang, 143, 220 Gardner-Denver, Hydrasonic; Powderman; Scaler (drillers); Welders and/or Pipelayers installing process piping; Form setter and/or builder

LABORERS

(Tunnel and Shaft Workers)

- Group 1: Bull Gang, muckers, trackman; Dumpmen; Concrete crew (includes rodders and spreaders); Grout Crew; Swamper (brakeman and switchmen on tunnel work); Change house man
- Group 2: Nipper; Chucktender, Cabletender, Vibratorman, Jackhammer, Pneumatic tools (except driller)
- Group 3: Grout Gunman
- Group 4: Timberman, Retimberman - wood or steel blaster, driller powerman; Cherry picker Powderman - primer house; Steel form raiser and setter; Kemper and other pneumatic concrete placer operator; Miner - finisher; Miners - Tunnel (hand or machine)
- Group 5: Diamond Drill
- Group 5A: Shaft and Raise Miner Welder

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 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. The term "mechanics and laborers" shall be deemed to include apprentices and trainees not covered by an approved program as provided by the Apprentices and Trainees clause of this contract.

(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, including apprentices and trainees 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, or by the Apprentices and Trainees clause of this contract, 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 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 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, Employment and Training 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 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 or 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 or subcontractor shall furnish to the Contracting Officer written evidence of the registration of his

program and apprentices as well as the appropriate ratios and wage rates (expressed in percentages of the journeymen hourly rates) for the area of construction, prior to using any apprentices on the contract work. The wage rate paid apprentices shall be not less than the appropriate percentage of the journeymen's rate contained in the applicable wage determination.

(b) Trainees shall be permitted to work at less than the predetermined rate for the work performed when they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification, by the U.S. Department of Labor, Employment and Training Administration, 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, Employment and Training 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 on this contract 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 or subcontractor shall furnish the Contracting Officer 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 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 this contract.

(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 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 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 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". 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.

NOTE: Watchmen and guards appear on payroll records only for purposes of the Contract Work Hours and Safety Standards Act.

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 the Contractor and any subcontractor for liquidated damages under paragraph (b) of the clause entitled "Contract Work Hours and Safety Standards Act—Overtime Compensation."

(b) If the Contractor or any 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 decisions 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.

DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA

(This clause is applicable to all contracts and purchase orders of \$10,000 or more.)

(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 USC 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 lo-

cation 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 of 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 nonsupervisory; technical; and executive, administrative, and professional openings as are compensated on a salary basis of less than \$25,000 per year. This term includes full-time 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, whose 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 regularly 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.

(l) 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 non-compliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations 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 the terms of the Vietnam Era Veterans 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 non-compliance.

UNITED STATES DEPARTMENT OF AGRICULTURE

EMPLOYMENT OF THE HANDICAPPED

(The following clause is applicable to all contracts or purchase orders of \$2,500 or more, as required by the regulations of the Secretary of Labor.)

(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, layoff 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.

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. SCS-10-AZ-80
	MILLION(S)	THOUSAND(S)	HUNDRED(S)	CENTS		

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) 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 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 is 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) (Typed)	1.				2.	Corporate Seal	
INDIVIDUAL SURETIES							
Signature(s)	1.				2.	(Seal)	
		(Seal)					
Name(s) (Typed)	1.				2.	(Seal)	
CORPORATE SURETY(IES)							
SURETY A	Name & Address				STATE OF INC.	LIABILITY LIMIT	Corporate Seal
	Signature(s)	1.				2.	
	Name(s) & Title(s) (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) (Typed)	1.	2.		
SURETY C	Name & Address		STATE OF INC.	LIABILITY LIMIT	<i>Corporate Seal</i>
	Signature(s)	1.	2.		
	Name(s) & Title(s) (Typed)	1.	2.		
SURETY D	Name & Address		STATE OF INC.	LIABILITY LIMIT	<i>Corporate Seal</i>
	Signature(s)	1.	2.		
	Name(s) & Title(s) (Typed)	1.	2.		
SURETY E	Name & Address		STATE OF INC.	LIABILITY LIMIT	<i>Corporate Seal</i>
	Signature(s)	1.	2.		
	Name(s) & Title(s) (Typed)	1.	2.		
SURETY F	Name & Address		STATE OF INC.	LIABILITY LIMIT	<i>Corporate Seal</i>
	Signature(s)	1.	2.		
	Name(s) & Title(s) (Typed)	1.	2.		
SURETY G	Name & Address		STATE OF INC.	LIABILITY LIMIT	<i>Corporate Seal</i>
	Signature(s)	1.	2.		
	Name(s) & Title(s) (Typed)	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.

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).

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.

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.

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 Subcontractors 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.

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 par-

ticular 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.

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).

SOIL CONSERVATION SERVICE
SUPPLEMENT TO OSHA PART 1926
CONSTRUCTION STANDARDS AND INTERPRETATIONS

The contractor is to comply with OSHA Part 1926, Construction Standards and Interpretations, in effect on the date of issuance of bids and with this supplement.

Requests for waivers from this supplement are to be made to the contracting officer in writing supported by evidence that every reasonable effort has been made to comply with the contractual requirements. The contractor is to hold and save the Soil Conservation Service (Contracting Local Organization in locally awarded contracts) free from any claims or causes of action whatsoever resulting from the contractor or his or her subcontractors proceeding under a waiver or approved adaptation.

Copies of OSHA Part 1926 Construction Standards and Interpretations may be obtained from:

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

GENERAL CONTRACTOR REQUIREMENTS

1.1 SAFETY PROGRAM. Each contractor is to demonstrate that he or she has facilities for conducting a safety program commensurate with the work under contract. The contractor is to submit in writing a proposed comprehensive safety program to the contracting officer for approval before the start of construction operations. The program is to specifically state what provisions the contractor proposes to take for the health and safety of all employees.

1.2 PRECONSTRUCTION SAFETY MEETING. Representatives of the contractor are to meet with the contracting officer's authorized representative before the start of construction to discuss safety standards and requirements applicable to the work under contract.

1.3 JOINT SAFETY POLICY COMMITTEE. The contractor is to participate in monthly meetings of a Joint Safety Policy Committee, composed of SCS and contractor supervisory personnel. At these meetings the contractor's project manager and the contracting officer's representative will review the effectiveness of the contractor's safety effort and coordinate safety activities.

1.4 SAFETY PERSONNEL. Each contractor is to designate a competent supervisory employee to carry out the safety program.

1.5 SAFETY MEETINGS. A minimum of one "on-the-job" or "toolbox" safety meeting is to be conducted each week by all field supervisors or foremen and attended by all mechanics and laborers at the worksite. The contractor also is to conduct regularly scheduled supervisory safety meetings at least monthly for all levels of job supervision.

1.6 FIRST AID TRAINING. Every contractor foreman must have a Bureau of Mines or American Red Cross first aid certificate. The contractor is to provide first aid instruction to comply with this requirement.

1.7 REPORTS. Each contractor is to maintain an accurate record of, and report to the contracting officer in the manner and on forms prescribed by the contracting officer, all cases of death, occupational disease, or disabling injury arising out of or in the course of employment incident to contract work. All fatal or serious injuries are to be reported immediately to the contracting officer's field representative, and every assistance is to be given in the investigation of the incident, including submission of a comprehensive narrative report to the contracting officer's authorized representative. Other accidental occurrences with serious accident potential such as equipment failures, slides, cave-ins, etc., must also be reported immediately. The contractor is to assist and cooperate fully with the contracting officer's representatives in conducting accident investigations. The contracting officer's authorized representative is to be furnished all information and data pertinent to investigation of an accident.

FIRST AID AND MEDICAL FACILITIES

2.1 CLASS A--FIRST AID FACILITIES (100 or fewer employees).

2.1.1 First Aid Kits. On projects where 100 or fewer workers (total number of employees on all shifts) are employed, 16-unit first aid kits are to be provided at accessible points in the ratio of at least one kit for each 25 employees. The first aid kits are to be moistureproof and dusttight, and the contents of the kits are to be replenished as used.

2.1.2 Emergency First Aid. At least one supervisor qualified to administer emergency first aid must be available on each shift and duly designated by the contractor to care for injured employees.

2.1.3 Communication and Transportation. The contractor is to make necessary arrangements for prompt and dependable communications, transportation, and medical care for injured employees. At least one stretcher and two blankets must be readily available for transporting injured employees.

2.2 FIRST AID AND MEDICAL REPORTS

2.2.1 Type of Records. The contractor is to maintain a first aid treatment and medical record system on all projects. Such records are to include:

- (a) a daily treatment log listing chronologically all patients visiting the facility for occupational injuries and illnesses;
- (b) cumulative individual injury records;
- (c) monthly statistical records of occupational injuries, classified by type and nature of injury; and
- (d) required worker's compensation records.

2.2.2 Availability of Records. Records are to be readily available to the contracting officer.

2.3 GENERAL

2.3.1 Certification of Insurance. Contractors are to provide the contracting officer or his or her authorized representative with certificates of insurance before the start of operations indicating full compliance with State workmen's compensation statutes.

2.3.2 Signs, and Directional Markings. Adequate identification and directional markers are to be provided to readily denote the location of all first aid stations.

2.3.3 Emergency Lighting. Emergency lighting is to be provided at all first aid stations.

PHYSICAL QUALIFICATION OF EMPLOYEES

3.1 REQUIREMENT. Persons employed throughout the course of the contract are to be physically qualified to perform their assigned duties. Employees must not knowingly be permitted or required to work while their ability or alertness is so impaired by fatigue, illness, or any other reason that it may expose themselves or others to injury.

3.2 MINORS AND WOMEN WORKERS. The contractor is to comply with all applicable Federal and State laws on employment of minors and women.

3.3 HEAVY EQUIPMENT OPERATORS. It is recommended that operators of trucks and heavy construction equipment be given physical examinations to determine if they are physically qualified to perform their assigned work without endangering themselves or others.

3.4 PHYSICAL EXAMINATIONS REQUIRED

3.4.1 Hoist Operators. Operators of material hoists are to be examined and provided with a physician's certificate stating that they are physically qualified to safely operate hoisting equipment before they are assigned to operate a hoist. At least once a year thereafter they shall obtain a physician's certificate of physical fitness. A copy of each certificate is to be submitted to the contracting officer.

3.4.2 Motor Vehicle Operators. Operators of motor vehicles engaged primarily in the transportation of personnel are to be 18 years of age or older and have a valid State operator's permit or license for the equipment being operated. The operator must have passed a physical examination within the past year.

3.4.3 Marine Divers. Divers must be fully qualified by training, experience, and physical condition to perform this type of diving and to perform the work. A current physician's certification of physical fitness to perform diving is required for all diving personnel.

PERSONAL PROTECTIVE EQUIPMENT

4.1 HARD HATS

4.1.1 Hard Hat Areas. "Hard Hat Areas" include all locations where construction work of any nature is in progress and the entire jobsite with the exception of shop interiors, offices, and identified visitor parking areas. All employees (including equipment operators and field mechanics) and others entering the area are required, without exception, to wear hard hats. The contractor is to provide hard hats for visitors entering "Hard Hat Areas."

4.1.2 Posting. Signs at least 3 by 4 feet in size, with the following wording are to be erected at the access to construction areas:

"CONSTRUCTION AREA--HARD HATS REQUIRED
BEYOND THIS POINT"

The signs are to be furnished and erected by the contractor at locations designated by the contracting officer's authorized representative.

4.2 SAFETY GOGGLES (DRILLERS)

4.2.1 Drillers and Helpers. Drillers and helpers operating pneumatic rock drills must wear protective safety goggles.

4.3 SAFETY BELTS AND LINES

4.3.1 Requirement. Employees working from unguarded heights, on steep slopes, or otherwise subjected to possible falls from heights not protected by fixed scaffolding, guardrails, or safety nets must be secured by safety belts and lifelines.

4.3.2 Lifelines. Lifelines are to be secured to at least two substantial anchorages or structural members.

4.3.3 Inspection and Maintenance. Safety belts, lifelines, and accessories are to be inspected daily and maintained in safe condition.

MACHINERY AND MECHANIZED EQUIPMENT

5.1 GENERAL

5.1.1 Safe Condition. Before any machinery or mechanized equipment is initially used on the job, it must be inspected and tested by qualified contractor personnel and determined to be in safe operating condition and appropriate for the intended use. Operators are to be instructed to check their equipment daily before use and report any deficiencies to management. Safety equipment installed on machinery is to be used by equipment operators.

5.1.2 Electric-driven Equipment. Electric-driven equipment is to be installed with provision for tagging and/or locking out the controls while under repair. An approved lockout and/or tagout procedure is to be established, prescribing specific responsibilities and safety procedures to be followed by the person or persons performing the repair work. Mixer barrels are to be securely locked out before permitting employees to enter them for cleaning or repair.

5.1.3 Conductors. Conductors rated 440 volts and greater are not to be laid on the ground unless they are heavy-duty armored type or shielded type. Such cables used to supply power to moving equipment must be moved only with the aid of nonconductive safety tongs, and if energized at over 5,000 volts, by worker's wearing tested and approved-type electrician's hot sticks or gloves.

5.1.4 Posting for High-Voltage Lines. A notice of the 10-foot limitation required by 1926.550, Subpart N, is to be posted in the operator's cab of cranes, shovels, backhoes, and related equipment.

5.2 HAUL ROADS FOR EQUIPMENT

5.2.1 Road Maintenance. The contractor must maintain haul roads and access roads in a safe condition so as to eliminate or control dust and ice hazards. Wherever dust conditions exist, adequate dust-laying equipment must be available at the jobsite and utilized to prevent dust from obscuring vision.

5.2.2 Single-lane Haul Roads. Single-lane haul roads with two-way traffic is to be provided with adequate turnouts. Where adequate turnouts are not practical, a control system is to be provided to prevent vehicle accidents.

5.2.3 Two-way Haul Roads. On two-way traffic haul roads, arrangements are to be such that vehicles travel on the right side wherever possible. Signs and traffic control devices are to be employed to indicate clearly any variation from a right-hand traffic pattern. The width of the road must be adequate to permit safe passage of opposing traffic considering the type of haulage equipment used.

5.2.4 Design and Construction of Haul Roads. Haul road design criteria and drawings if requested by the contracting officer are to be submitted for the approval of the contracting officer's representative prior to road construction.

5.2.5 Operators. Machinery and mechanized equipment is to be operated only by authorized persons.

5.2.6 Riding on Equipment. Riding on equipment by unauthorized personnel is prohibited. Seating shall be provided for the operator and all passengers.

5.2.7 Getting On or Off Equipment. Getting on or off equipment, such as tractors, cranes, or excavation equipment, while the equipment is in motion is prohibited.

5.2.8 Hours of Operation. Except in emergencies, an equipment operator may not be permitted to operate any mobile or hoisting equipment for more than 12 hours without a continuous 8-hour rest interval.

5.3 POWER CRANES AND HOISTS (TRUCK CRANES, CRAWLER CRANES, TOWER CRANES, GANTRY CRANES, HAMMERHEAD CRANES, DERRICKS, CABLEWAYS, AND HOISTS)

5.3.1 Performance Test. Before initial onsite operation, power cranes, derricks, cableways, and hoists must satisfactorily complete a performance test to demonstrate the equipment's ability to safely handle and maneuver the rated loads.

5.3.2 Performance Test--Power Cranes (Crawler-mounted, truck-mounted, and wheel-mounted). The performance test is to be carried out with outriggers set and with a test load weighing 115 percent of the manufacturer's rating for the boom radius selected by the contractor. The test is to consist of raising, lowering, and braking the load and rotating the test load through 360° at the specified boom angle or radius. Cranes equipped with jibs or boom-tip extensions are to be tested using both the main boom and the jib, with an appropriate test load in each case.

5.3.3 Performance Test--Derricks, Tower Cranes, Cableways, and Hoists. Derricks, gantry cranes, tower cranes, cableways, and hoists, including overhead cranes, are to be performance tested with a test load weighing 115 percent of the manufacturer's rating. In testing cableways, the test load is to be traveled to the upstream and downstream limits of travel and thoroughly performance tested in at least three travel positions, including both limits of travel.

5.3.4 Boom Angle Indicator. OSHA Part 1926.550(a) is supplemented to require that power cranes be provided with a boom angle indicator in good working order.

5.3.5 Crane Test Certification. The performance test required by 5.3.2 or 5.3.3 is fulfilled if the contractor provides the contracting officer a copy of a certificate of inspection made within the past 12 months by a competent person or by a government or private agency satisfactory to the contracting officer.

5.4 ROLLOVER PROTECTIVE STRUCTURES (ROPS).

5.4.1 Rollover Protective Structures. Overhead Protection Part 1926, Subpart W, Sections 1000, 1001, and 1002 are applicable regardless of the year in which the equipment was manufactured and regardless of the struck capacity of the equipment.

5.4.2 Skid-steer and Compactor Equipment. Skid-steer equipment and self-propelled compactor equipment is to be equipped with ROPS as provided by Part 1926.1001.

CONSTRUCTION SPECIFICATION

3. STRUCTURE REMOVAL

1. SCOPE

The work shall consist of the removal, salvage and disposal of structures (including fences) from the designated areas.

2. MARKING

(Method 1) Each structure unit to be removed will be marked by means of stakes, flags, painted markers or other suitable methods.

(Method 2) The limits of the areas from which structures must be removed will be marked by means of stakes, flags or other suitable methods. Structures to be preserved in place or salvaged will be designated by special markings.

3. REMOVAL

(Method 1) All structures designated in the contract for removal shall be removed to the specified extent and depth.

(Method 2) Within the areas so marked all visible structures and attachments and all buried structures located and identified by survey stakes shall be removed to the specified extent and depth.

4. SALVAGE

Structures that are designated to be salvaged shall be carefully removed and neatly placed in the specified storage areas. Salvaged structures that are capable of being disassembled shall be dismantled into individual members or sections. Such structures shall be neatly matchmarked with paint prior to disassembly. All pins, nuts, bolts, washers, plates and other loose parts shall be marked or tagged to indicate their proper locations in the structure and shall be fastened to the appropriate structural member or packed in suitable containers. Materials from fences designated to be salvaged shall be placed outside the work area on the property from which they were removed. Wire shall be rolled into uniform rolls of convenient size. Posts and rails shall be neatly piled.

5. DISPOSAL OF REFUSE MATERIALS

Unless otherwise specified, refuse materials resulting from structure removal shall be burned or buried at locations approved by the Engineer or otherwise disposed of as specified or as approved by the Engineer.

6. MEASUREMENT AND PAYMENT

(Method 1) For items of work for which specific unit prices are established in the contract, payment for the removal of each structure unit, except fences, will be made at the contract unit price. Fences removed or removed and salvaged will be measured to the nearest linear foot. Payment for fence removal or removal and salvage will be made at the contract unit prices appropriate to each type and size of fence. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

(Method 2) For items of work for which specific lump sum prices are established in the contract, payment for structure removal will be made at the contract lump sum price. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

(Use with Either Method) Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 7 of this specification.

7. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Subsidiary Item, Pavement Removal

- (1) This item shall consist of the removal and disposal of the existing asphalt pavement at the following locations as shown on the drawings and staked in the field.
 - (a) Between Station 677+73± and Station 678+15± centerline dike. (Palo Verde Road)
 - (b) Between Station 787+64± and Station 787+99± centerline dike. (Johnson Road)
- (2) In Section 2, Marking, Method 1 shall apply.
- (3) In Section 3, Removal, Method 1 shall apply.
- (4) If waste materials are disposed of by burying, they shall be buried in the waste areas designated by the Engineer. They shall be covered by a minimum of 18 inches of soil. After disposal, the waste areas shall be smoothed and graded to drain and to blend into the surrounding terrain. No separate payment will be made for pavement removal.
- (5) Compensation for pavement removal will be included in the Payment for Drain Fill, Bid Item 5.

CONSTRUCTION SPECIFICATION

8. MOBILIZATION

1. SCOPE

The work shall consist of the mobilization of the Contractor's forces and equipment necessary for performing the work required under the contract.

It shall include the purchase of contract bonds; transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary facilities at the site; and other preparatory work at the site.

It shall not include mobilization for any specific item of work for which payment for mobilization is provided elsewhere in the contract.

The specification covers mobilization for work required by the contract at the time of award. If additional mobilization costs are incurred during performance of the contract as a result of change or added items of work for which the Contractor is entitled to an adjustment in contract price, compensation for such costs will be included in the price adjustment for the items of work changed or added.

2. PAYMENT

Payment will be made as the work proceeds, after presentation of invoices by the Contractor showing his own mobilization costs and evidence of the charges of suppliers, subcontractors, and others for mobilization work performed by them. If the total of such payments is less than the contract lump sum for mobilization, the unpaid balance will be included in the final contract payment. Total payment will be the lump sum contract price for mobilization, regardless of actual cost to the Contractor.

Payment will not be made under this item for the purchase costs of materials having a residual value, the purchase costs of materials to be incorporated in the project, or the purchase costs of operating supplies.

Payment of the lump sum contract price for mobilization will constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 3 of this specification.

3. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 1, Mobilization

- (1) This item shall consist of the mobilization of the contractor's equipment and forces for the construction of the Buckeye Site 1 Drain.
- (2) There are no additional construction details.
- (3) Measurement and payment will be in accordance with Section 2.

CONSTRUCTION SPECIFICATION

10. WATER FOR CONSTRUCTION

1. SCOPE

The work shall consist of furnishing, transporting, and using water for construction purposes in accord with the applicable specifications.

2. FACILITIES AND EQUIPMENT

The Contractor shall build and maintain such access and haul roads as are needed, and shall furnish, operate, and maintain all pumps, piping, tanks, and other facilities needed to load, transport, and use the water as specified.

These facilities shall be equipped with meters, tanks, or other devices by which the volume of water supplied can be measured.

3. DUST ABATEMENT AND HAUL ROAD MAINTENANCE

Water for dust abatement and haul road maintenance shall be applied to haul roads and other dust-producing areas as needed to prevent excessive dust and to maintain the roads in good condition for efficient operation while they are in use.

4. EARTH FILL, DRAIN FILL, ROCK FILL

Water for earth fill, drain fill, or rock fill shall be used in the fill materials as specified in the applicable construction specifications.

5. CONCRETE, MORTAR, GROUT

Water used in mixing or curing concrete, pneumatically applied mortar, or other portland cement mortar or grout shall meet the requirements of the applicable construction specifications and shall be used in conformance with those specifications.

6. MEASUREMENT AND PAYMENT

For water items for which specific unit prices are established in the contract, the volume of water furnished and used in accordance with the specifications will be measured to the nearest 1000 gallons.

Except as otherwise specified, the measurement for payment will include all water needed at the construction site to perform the work required under the contract in accordance with the specifications but will not include water wasted or used in excess of the amount needed. It will not include water used in concrete which is mixed elsewhere and transported to the site.

Payment for water will be made at the contract unit price which shall be the price per 1000 gallons shown in the Bid Schedule. Such payment will constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to furnishing, transporting, and using the water.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 7 of this specification.

7. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 2, Water

- (1) This item shall consist of furnishing, measuring and applying all water required for the pressure washing of the downstream face of the embankment drain trench prior to the placement of the drain fill as shown on the drawings and directed by the Engineer.
- (2) Water used shall be clean and free from injurious amounts of oil, salt, acid, alkali, organic matter or other deleterious substances.
- (3) Water used for the pressure washing of the embankment drain trench shall be applied at a rate of from 5 to 10 gpm at a pressure of 20 to 40 psi.
- (4) Measurement and payment shall be in accordance with Section 7.

CONSTRUCTION SPECIFICATION

11. REMOVAL OF WATER

1. SCOPE

The work shall consist of the removal of surface water and ground water as needed to perform the required construction in accordance with the specifications. It shall include (1) building and maintaining all necessary temporary impounding works, channels, and diversions, (2) furnishing, installing and operating all necessary pumps, piping and other facilities and equipment, and (3) removing all such temporary works and equipment after they have served their purposes.

2. DIVERTING SURFACE WATER

The Contractor shall build, maintain, and operate all cofferdams, channels, flumes, sumps, and other temporary diversion and protective works needed to divert streamflow and other surface water through or around the construction site and away from the construction work while construction is in progress. Unless otherwise specified, a diversion must discharge into the same natural drainageway in which its headworks are located.

Unless otherwise specified, the Contractor shall furnish to the Engineer, in writing, his plan for diverting surface water before beginning the construction work for which the diversion is required. Acceptance of this plan will not relieve the Contractor of responsibility for completing the work as specified.

3. DEWATERING THE CONSTRUCTION SITE

Foundations, cutoff trenches and other parts of the construction site shall be dewatered and kept free of standing water or excessively muddy conditions as needed for proper execution of the construction work. The Contractor shall furnish, install, operate and maintain all drains, sumps, pumps, casings, wellpoints, and other equipment needed to perform the dewatering as specified. Dewatering methods that cause a loss of fines from foundation areas will not be permitted.

Unless otherwise specified, the Contractor shall furnish to the Engineer, in writing, his plan for dewatering before beginning the construction work for which the dewatering is required. Acceptance of this plan will not relieve the Contractor of responsibility for completing the work as specified.

4. DEWATERING BORROW AREAS

Unless otherwise specified in Section 7, the Contractor shall maintain the borrow areas in drainable condition or otherwise provide for timely and effective removal of surface waters that accumulate, for any reason, within the borrow areas.

5. REMOVAL OF TEMPORARY WORKS

After the temporary works have served their purposes, the Contractor shall remove them or level and grade them to the extent required to present a sightly appearance and to prevent any obstruction of the flow of water or any other interference with the operation of or access to the permanent works.

Except as otherwise specified, pipes and casings shall be removed from temporary wells and the wells shall be filled to ground level with gravel or other material approved by the Engineer.

6. MEASUREMENT AND PAYMENT

For items of work for which specific lump sum prices are established in the contract, payment for diverting surface water, dewatering construction sites, and dewatering borrow areas will be made at the contract lump sum prices. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 7 of this specification.

7. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Subsidiary Item, Dewatering

- (1) This item shall consist of dewatering the work site, to the extent that construction operations can be performed under dry, stable conditions.
- (2) Dewatering operations shall include diverting surface water, if required, and removing subsurface waters and water required for pressure washing of the embankment drain trench.
- (3) No advance plan of dewatering will be required.
- (4) No separate payment will be made for dewatering. Compensation for dewatering will be included in the payment for embankment drain trench excavation, common, Bid Item 3.

CONSTRUCTION SPECIFICATION

21. EXCAVATION

1. SCOPE

The work shall consist of the excavation required by the drawings and specifications and disposal of the excavated materials.

2. CLASSIFICATION

Excavation will be classified as common excavation or rock excavation in accordance with the following definitions or will be designated as unclassified.

Common excavation shall be defined as the excavation of all materials that can be excavated, transported, and unloaded by the use of heavy ripping equipment and wheel tractor-scrappers with pusher tractors or that can be excavated and dumped into place or loaded onto hauling equipment by means of excavators having a rated capacity of one cubic yard and equipped with attachments (such as shovel, bucket, backhoe, dragline or clam shell) appropriate to the character of the materials and the site conditions.

Rock excavation shall be defined as the excavation of all hard, compacted or cemented materials the accomplishment of which requires blasting or the use of excavators larger than defined for common excavation. The excavation and removal of isolated boulders or rock fragments larger than one cubic yard in volume encountered in materials otherwise conforming to the definition of common excavation shall be classified as rock excavation.

Excavation will be classified according to the above definitions by the Engineer, based on his judgment of the character of the materials and the site conditions.

The presence of isolated boulders or rock fragments larger than one cubic yard in size will not in itself be sufficient cause to change the classification of the surrounding material.

For the purpose of this classification, the following definitions shall apply:

Heavy ripping equipment shall be defined as a rear-mounted, heavy duty, single-tooth, ripping attachment mounted on a tractor having a power rating of 200-300 net horsepower (at the flywheel).

Wheel tractor-scraper shall be defined as a self-loading (not elevating) and unloading scraper having a struck bowl capacity of 12-20 yards.

Pusher tractor shall be defined as a track type tractor having a power rating of 200-300 net horsepower (at the flywheel) equipped with appropriate attachments.

3. UNCLASSIFIED EXCAVATION

Items designated as "Unclassified Excavation" shall include all materials encountered regardless of their nature or the manner in which they are removed. When excavation is unclassified, none of the definitions or classifications stated in Section 2 of this specification shall apply.

4. BLASTING

The transportation, handling, storage, and use of dynamite and other explosives shall be directed and supervised by a person of proven experience and ability in blasting operations.

Blasting shall be done in such a way as to prevent damage to the work or unnecessary fracturing of the foundation and shall conform to any special requirements in Section 12 of this specification.

5. USE OF EXCAVATED MATERIALS

(Method 1) To the extent they are needed, all suitable materials from the specified excavations shall be used in the construction of required permanent earth fill or rock fill. The suitability of materials for specific purposes will be determined by the Engineer. The Contractor shall not waste or otherwise dispose of suitable excavated materials.

(Method 2) Suitable materials from the specified excavations may be used in the construction of required earth fill or rock fill. The suitability of materials for specific purposes will be determined by the Engineer.

6. DISPOSAL OF WASTE MATERIALS

(Method 1) All surplus or unsuitable excavated materials will be designated as waste and shall be disposed of at the locations shown on the drawings.

(Method 2) All surplus or unsuitable excavated materials will be designated as waste and shall be disposed of by the Contractor at sites of his own choosing away from the site of the work.

7. BRACING AND SHORING

Excavated surfaces too steep to be safe and stable if unsupported shall be supported as necessary to safeguard the work and workmen, to prevent sliding or settling of the adjacent ground, and to avoid damaging existing improvements. The width of the excavation shall be increased if necessary to provide space for sheeting, bracing, shoring, and other supporting installations. The Contractor shall furnish, place and subsequently remove such supporting installations.

8. STRUCTURE AND TRENCH EXCAVATION

Structure or trench excavation shall be completed to the specified elevations and to sufficient length and width to include allowance for forms, bracing and supports, as necessary, before any concrete or earth fill is placed or any piles are driven within the limits of the excavation.

9. BORROW EXCAVATION

When the quantities of suitable materials obtained from specified excavations are insufficient to construct the specified fills, additional materials shall be obtained from the designated borrow areas. The extent and depth of borrow pits within the limits of the designated borrow areas shall be as directed by the Engineer.

Borrow pits shall be excavated and finally dressed in a manner to eliminate steep or unstable side slopes or other hazardous or unsightly conditions.

10. OVEREXCAVATION

Excavation in rock beyond the specified lines and grades shall be corrected by filling the resulting voids with portland cement concrete made of materials and mix proportions approved by the Engineer. Concrete that will be exposed to the atmosphere when

construction is completed shall contain not less than 6 sacks of cement per cubic yard of concrete. Concrete that will be permanently covered shall contain not less than 4 1/2 sacks of cement per cubic yard. The concrete shall be placed and cured as specified by the Engineer.

Excavation in earth beyond the specified lines and grades shall be corrected by filling the resulting voids with approved compacted earth fill, except that, if the earth is to become the subgrade for riprap, rock fill, sand or gravel bedding, or drain fill, the voids may be filled with material conforming to the specifications for the riprap, rock fill, bedding or drain fill.

11. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, the volume of each type and class of excavation within the specified pay limits will be measured and computed to the nearest cubic yard by the method of average cross-sectional end areas. Regardless of quantities excavated, the measurement for payment will be made to the specified pay limits, except that excavation outside the specified lines and grades directed by the Engineer to remove unsuitable material will be included, but only to the extent that the unsuitable condition is not a result of the Contractor's operations.

(Method 1) The pay limits shall be as designated on the drawings.

(Method 2) The pay limits shall be defined as follows:

- a. The upper limit shall be the original ground surface as it existed prior to the start of construction operations except that where excavation is performed within areas designated for previous excavation or fill the upper limit shall be modified ground surface resulting from the specified previous excavation or fill.
- b. The lower and lateral limits shall be the neat lines and grades shown on the drawings.

(Method 3) The pay limits shall be defined as follows:

- a. The upper limit shall be the original ground surface as it existed prior to the start of construction operations except that where excavation is performed within areas designated

for previous excavation or fill and the upper limit shall be the modified ground surface resulting from the specified previous excavation or fill.

- b. The lower and lateral limits shall be the true surface of the completed excavation as authorized by the Engineer.

(Method 4) The pay limits shall be defined as follows:

- a. The upper limit shall be the original ground surface as it existed prior to the start of construction operations except that where excavation is performed within areas designated for previous excavation or fill the upper limit shall be the modified ground surface resulting from the specified previous excavation or fill.
- b. The lower limit shall be at the bottom surface of the proposed structure.
- c. The lateral limits shall be 18 inches outside of the outside surfaces of the proposed structure or shall be vertical planes 18 inches outside of and parallel to the footings, whichever gives the larger pay quantity, except as provided in d, below.
- d. For trapezoidal channel linings or similar structures that are to be supported upon the sides of the excavation without intervening forms, the lateral limits shall be at the under-side of the proposed lining or structure.
- e. For the purpose of the definitions in b, c, and d, above, any specified bedding or drain fill directly beneath or beside the structure will be considered to be a part of the structure.

(Use with all Methods) Payment for each type and class of excavation will be made at the contract unit price for that type and class of excavation. Such payment will constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to the performance of the work, except that extra payment for backfilling required overexcavation will be made in accordance with the following provisions:

- a. Payment for backfilling overexcavation, as specified in Section 10 of this specification, will be made only if the excavation outside specified lines and grades is directed by the Engineer to remove unsuitable material and if the unsuitable condition is not a result of the Contractor's operations.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 12 of this specification.

12. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 3, Embankment Drain Trench Excavation, Common

- (1) This item shall consist of all excavation, including support of the trench and disposal of excavated material, required for the construction of the trench for the embankment drain and embankment drain outlets as shown on the drawings and staked in the field.
- (2) Excavation shall consist of removal and disposal of all materials resulting from excavation required to intercept embankment cracks. Approximate depths are shown on the drawings. Final depths will be determined by the Engineer.
- (3) All cracks in the upstream face of the embankment drain trench that extend below the trench excavation limit shown on the drawings shall be intercepted by an auxiliary embankment drain outlet trench shown on sheet 7 and as directed by the Engineer. An auxiliary embankment drain outlet shall also be provided at the immediate location where there is located an open crack greater than 3/8 inch thick at depths below 3 feet from the top of the dam.
- (4) No more than 500 feet length of trench shall be opened at any time.
- (5) Support of the trench shall consist of furnishing, placing and removal of sheeting, bracing, shoring or portable shields required for safe inspection and construction operations. The support works shall be placed in a manner to prevent failure of the vertical trench walls and permit washing and inspection of the downstream face of the embankment drain trench. A minimum shored length of 25 feet shall be provided prior to commencing inspection or construction operations in the embankment drain trench.
- (6) Section 5, Use of Excavated Materials, does not apply.
- (7) In Section 6, Disposal of Waste Materials, Method 1 shall apply. Waste material shall be spread on the slopes of the dam within the limits shown on the drawings.
- (8) Measurement and payment will be by Method 3 and will include full compensation for Subsidiary Item, Dewatering.

b. Bid Item 4, Grading

- (1) This item shall consist of all grading, shaping and smoothing required to bring the top of the dike and the road surfaces of Palo Verde Road, Station 678+00, and Johnson Road, Station 788+00, to their original ground elevations as staked in the field.
- (2) The grading of the road crossings shall be done in such a manner that will not leave any depression or hump across the roads over the embankment drain trench.
- (3) For items of work for which specific lump sum prices are established in the contract, payment for grading will be made at the contract lump sum price. Such payment will constitute full compensation for all labor, equipment, tools, and all other items necessary and incidental to the completion of the work.

CONSTRUCTION SPECIFICATION

24. DRAIN FILL

1. SCOPE

The work shall consist of furnishing, placing and compacting drain fill required in the construction of structure drains and filters.

2. MATERIALS

(Method 1) Drain fill materials shall conform to the requirements of Material Specification 521. At least 30 days prior to delivery of the materials to the site the Contractor shall inform the Contracting Officer in writing of the source from which he intends to obtain them. The Contractor shall provide the Engineer free access to the source for the purpose of obtaining samples for testing.

(Method 2) Drain fill materials shall be sand, gravel or crushed stone or mixtures thereof obtained from the specified sources. They shall be selected as necessary to avoid the inclusion of organic matter, clay balls, excessive fine particles or other substances that would interfere with their free-draining properties.

3. BASE PREPARATION

Foundation surfaces and trenches shall be clean and free of organic matter, loose soil, foreign substances, and standing water when the drain fill is placed. Earth surfaces upon or against which drain fill will be placed shall not be scarified.

4. PLACEMENT

Drain fill shall not be placed until the subgrade has been inspected and approved by the Engineer. Drain fill shall not be placed over or around pipe or drain tile until the installation of the pipe or tile has been inspected and approved.

Drain fill shall be placed uniformly in layers not more than 12 inches deep before compaction. When compaction is accomplished by manually controlled equipment, the layers shall be not more than 8 inches deep. The material shall be placed in a manner to avoid segregation of particle sizes and to insure the continuity and integrity of all zones. No foreign materials shall be allowed to become intermixed with or otherwise contaminate the drain fill.

Traffic shall not be allowed to cross over drains at random. Equipment crossovers shall be maintained, and the number and location of such crossovers shall be established and approved prior to the beginning of drain fill placement. Each crossover shall be cleaned of all contaminating materials and shall be inspected and approved by the Engineer before additional drain fill is placed.

Any damage to the foundation surface or to the sides or bottoms of trenches occurring during placement of drain fill shall be repaired before drain fill placement is continued.

The upper surface of drain fill constructed concurrently with adjacent zones of earth fill shall be maintained at an elevation at least one foot above the upper surface of the adjacent fill.

Drain fill over or around pipe or drain tile shall be placed in a manner to avoid any displacement of the pipe or tile in line or grade.

5. CONTROL OF MOISTURE

The moisture content of drain fill materials shall be controlled as specified in Section 9. When the addition of water is required, it shall be applied in such a way as to avoid excessive wetting of adjacent earth fill. Except as specified in Section 9, control of the moisture content will not be required.

6. COMPACTION

Drain fill shall be compacted according to the following requirements for the class of compaction specified:

Class A compaction. Each layer of drain fill shall be compacted to a relative density of not less than 70 percent as determined by ASTM Method D 2049-64T.

Class I compaction. Each layer of drain fill shall be compacted by at least 2 passes, over the entire surface, of a steel-drum vibrating roller weighing not less than 5 tons and exerting a vertical vibrating force of not less than 20,000 pounds at least 1200 times per minute, or by an approved equivalent method.

Class II compaction. Each layer of drain fill shall be compacted by one of the following methods or by an approved equivalent method:

- a. At least 2 passes, over the entire surface, of a pneumatic-tired roller exerting a pressure of not less than 75 pounds per square inch.
- b. At least 4 passes, over the entire surface, of the track of a crawler-type tractor weighing not less than 20 tons.
- c. Controlled movement of the hauling equipment so that the entire surface is traversed by not less than one tread track of the loaded equipment.

Class III compaction. No compaction will be required beyond that resulting from the placing and spreading operations.

When compaction other than Class III compaction is specified materials placed in trenches or other locations inaccessible to heavy equipment shall be compacted by means of manually controlled pneumatic or vibrating tampers or by approved equivalent methods.

7. TESTING

The Engineer will perform such tests as are required to verify that the drain fill materials and the drain fill in place meet the requirements of the specifications. These tests are not intended to provide the Contractor with the information he needs to assure that the materials and workmanship meet the requirements of the specifications, and their performance will not relieve the Contractor of the responsibility of performing his own tests for that purpose.

8. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, the volume of drain fill within the neat lines shown on the drawings or limits established by the Engineer will be measured and computed to the nearest cubic yard. Where the Engineer directs placement of drain fill outside the neat lines to replace unsuitable foundation material, the volume of such drain fill will be included, but only to the extent that the unsuitable condition is not a result of the Contractor's operations.

Payment for drain fill will be made at the contract unit price for each type of drain fill, complete in place. Except as otherwise specified in Section 9, such payment will constitute full compensation for all labor, materials, equipment and all other items necessary and incidental to the performance of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 9 of this specification.

9. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 5, Drain Fill

- (1) This item shall consist of furnishing and placing all the drain fill materials required in the embankment drain and embankment drain outlet trenches as shown on the drawings.
- (2) In Section 2, Materials, Method 1 shall apply except delete the third sentence of paragraph one in Section 2 of Material Specification 521.
- (3) The drain fill shall meet the following gradation requirements.

<u>Sieve Size</u>	<u>Percent by Wt. Passing</u>
1½"	100
1"	80 - 100
¾"	70 - 90
⅜"	50 - 60
No. 4	35 - 50
No. 8	25 - 40
No. 30	10 - 25
No. 200	0 - 6.5

- (4) Drain fill shall be placed in horizontal layers not to exceed 36 inches deep. Drain fill shall not be dropped more than 5 feet vertically unless suitable equipment is used to prevent segregation.
- (5) In Section 6, Compaction shall be Class III.
- (6) The moisture content shall be maintained in a range to accomplish the specified compaction without bulking or dilatance.
- (7) The material passing the No. 200 sieve shall be nonplastic.
- (8) The coefficient of permeability of the drain fill shall not exceed 250 feet per day when measured in accordance with ASTM D2434 at the same in place density as achieved and measured in the fill after placement.

- (9) Measurement and payment will be made in accordance with Section 8 and will include full compensation for Subsidiary Items, Pavement Removal and Concrete, and Welded Wire Fabric.

b. Bid Item 6, Coarse Aggregate Drain

- (1) This item shall consist of furnishing and placing all the coarse aggregate drain materials required in the embankment drain outlet trenches as shown on the drawings.
- (2) In Section 2, Materials, Method 1 shall apply.
- (3) The gradation of the coarse aggregate drain materials shall meet the requirements of size No. 2 coarse aggregate in accordance with ASTM C33.
- (4) The coarse aggregate drain materials shall be placed in a suitable manner to prevent segregation.
- (5) In Section 6, compaction shall be Class III.
- (6) Control of moisture content will not be required.
- (7) Measurement and payment will be made in accordance with Section 8.

CONSTRUCTION SPECIFICATION

32. CONCRETE FOR MINOR STRUCTURES

1. SCOPE

The work shall consist of furnishing, forming, placing, finishing and curing portland cement concrete as required to build the structures named in Section 24 of this specification.

2. MATERIALS

Portland cement shall conform to the requirements of Material Specification 531 for the specified type.

Aggregates shall conform to the requirements of Material Specification 522 unless otherwise specified. The grading of coarse aggregates shall be as specified in Section 24.

Water shall be clean and free from injurious amounts of oil, salt, acid, alkali, organic matter or other deleterious substances.

Preformed expansion joint filler shall conform to the requirements of Material Specification 535.

Waterstops shall conform to the requirements of Material Specifications 537 and 538 for the specified kinds.

3. CLASS OF CONCRETE

Concrete for minor structures shall be classified as follows:

<u>Class of Concrete</u>	<u>Maximum Net Water Content (gallons/bag)</u>	<u>Minimum Cement Content (bags/cu. yd.)</u>
3000M	7	6

4. AIR CONTENT AND CONSISTENCY

Unless otherwise specified, the slump shall be 2 to 4 inches. If air entrainment is specified, the air content by volume shall be 5 to 8 percent of the volume of the concrete. When specified or when directed by the Engineer, a water-reducing, set-retarding admixture approved by the Engineer shall be used.

5. DESIGN OF THE CONCRETE MIX

The proportions of the aggregates shall be such as to produce a concrete mixture that will work readily into the corners and angles of the forms and around reinforcement when consolidated but will not segregate or exude free water during consolidation.

Prior to placement of concrete, the Contractor shall furnish the Engineer, for approval, a statement of the materials and mix proportions (including admixtures, if any) he intends to use. The statement shall include evidence satisfactory to the Engineer that the materials and proportions will produce concrete conforming to this specification. The materials and proportions so stated shall constitute the "job mix." After a job mix has been approved, neither the source, character or grading of the aggregates nor the type or brand of cement or admixture shall be changed without prior notice to the Engineer. If such changes are necessary, no concrete containing such new or altered materials shall be placed until the Engineer has approved a revised job mix.

6. INSPECTION AND TESTING

The Engineer shall have free entry to the plant and equipment furnishing concrete under the contract. Proper facilities shall be provided for the Engineer to inspect materials, equipment and processes and to obtain samples of the concrete. All tests and inspections will be conducted so as not to interfere unnecessarily with manufacture and delivery of the concrete.

7. HANDLING AND MEASUREMENT OF MATERIALS

Materials shall be stockpiled and batched by methods that will prevent segregation or contamination of aggregates and insure accurate proportioning of the ingredients of the mix.

Except as otherwise provided in Section 8, cement and aggregates shall be measured as follows:

Cement shall be measured by weight or in bags of 94 pounds each. When cement is measured in bags, no fraction of a bag shall be used unless weighed.

Aggregates shall be measured by weight. Mix proportions shall be based on saturated, surface-dry weights. The batch weight of each aggregate shall be the required saturated, surface-dry weight plus the weight of surface moisture it contains.

Water shall be measured, by volume or by weight, to an accuracy within one percent of the total quantity of water required for the batch.

Admixtures shall be measured within a limit of accuracy of three percent.

8. MIXERS AND MIXING

Concrete shall be uniform and thoroughly mixed when delivered to the work. Variations in slump of more than 1 inch within a batch will be considered evidence of inadequate mixing and shall be corrected by increasing mixing time or other means.

For stationary mixers, the mixing time after all cement and aggregates are in the mixer drum shall be not less than 1-1/2 minutes. When concrete is mixed in a truck mixer, the number of revolutions of the drum or blades at mixing speed shall be not less than 70 nor more than 100.

Unless otherwise specified, volumetric batching and continuous mixing at the construction site will be permitted if approved by the Contracting Officer. The batching and mixing equipment shall conform to the requirements of ASTM Specification C 685 and shall be demonstrated prior to placement of concrete, by tests with the job mix, to produce concrete meeting the specified proportioning and uniformity requirements. Concrete made by this method shall be produced, inspected, and certified in conformance with Sections 6., 7., 8., 13., and 14. of ASTM Specification C 685.

No mixing water in excess of the amount called for by the job mix shall be added to the concrete during mixing or hauling or after arrival at the delivery point.

9. FORMS

Forms shall be of wood, plywood, steel or other approved material and shall be mortar tight. The forms and associated falsework shall be substantial and unyielding and shall be constructed so that the finished concrete will conform to the specified dimensions and contours. Form surfaces shall be smooth and free from holes, dents, sags or other irregularities. Forms shall be coated with a nonstaining form oil before being set into place.

Metal ties or anchorages within the forms shall be equipped with cones, she-bolts or other devices that permit their removal to a depth of at least one inch without injury to the concrete. Ties designed to break off below the surface of the concrete shall not be used without cones.

All edges that will be exposed to view when the structure is completed shall be chamfered, unless finished with molding tools as specified in Section 18.

10. PREPARATION OF FORMS AND SUBGRADE

Prior to placement of concrete the forms and subgrade shall be free of chips, sawdust, debris, water, ice, snow, extraneous oil, mortar, or other harmful substances or coatings. Any oil on the reinforcing steel or other surfaces required to be bonded to the concrete shall be removed. Rock surfaces shall be cleaned by air-water cutting, wet sandblasting or wire brush scrubbing, as necessary, and shall be wetted immediately prior to placement of concrete. Earth surfaces shall be firm and damp. Placement of concrete on mud, dried earth or uncompacted fill or frozen subgrade will not be permitted.

Unless otherwise specified, when concrete is to be placed over drain fill, the contact surface of the drain fill shall be covered with a layer of asphalt-impregnated building paper or polyvinyl sheeting prior to placement of the concrete. Forms for weepholes shall extend through this layer into the drain fill.

Items to be embedded in the concrete shall be positioned accurately and anchored firmly.

Weepholes in walls or slabs shall be formed with nonferrous materials.

11. CONVEYING

Concrete shall be delivered to the site and discharged into the forms within 1-1/2 hours after the introduction of the cement to the aggregates. In hot weather or under conditions contributing to quick stiffening of the concrete, the time between the introduction of the cement to the aggregates and discharge shall not exceed 45 minutes. The Engineer may allow a longer time, provided the setting time of the concrete is increased a corresponding amount by the addition of an approved set-retarding admixture. In any case, concrete shall be conveyed from the mixer to the forms as rapidly as practicable by methods that will prevent segregation of the aggregates or loss of mortar. Concrete shall not be dropped more than five feet vertically unless suitable equipment is used to prevent segregation.

12. PLACING

Concrete shall not be placed until the subgrade, forms and steel reinforcement have been inspected and approved. No concrete shall be placed except in the presence of the Engineer. The Contractor shall give reasonable notice to the Engineer each time he intends to place concrete. Such notice shall be far enough in advance to give the Engineer adequate time to inspect the subgrade, forms, steel reinforcement and other preparations for compliance with the specifications before concrete is delivered for placing.

The concrete shall be deposited as closely as possible to its final position in the forms and shall be worked into the corners and angles of the forms and around all reinforcement and embedded items in a manner to prevent segregation of aggregates or excessive laitance. Unless otherwise specified, slab concrete shall be placed to design thickness in one continuous layer. Formed concrete shall be placed in horizontal layers not more than 20 inches thick. Hoppers and chutes, pipes or "elephant trunks" shall be used as necessary to prevent splashing of mortar on the forms and reinforcing steel above the layer being placed.

Immediately after the concrete is placed in the forms, it shall be consolidated by spading, hand tamping or vibration as necessary to insure smooth surfaces and dense concrete. Each layer shall be consolidated to insure monolithic bond with the preceding layer. If the surface of a layer of concrete in place sets to the degree that it will not flow and merge with the succeeding layer when spaded or vibrated, the Contractor shall discontinue placing concrete and shall make a construction joint according to the procedure specified in Section 13.

If placing is discontinued when an incomplete horizontal layer is in place, the unfinished end of the layer shall be formed by a vertical bulkhead.

13. CONSTRUCTION JOINTS

Construction joints shall be made at the locations shown on the drawings. If construction joints are needed which are not shown on the drawings, they shall be placed in locations approved by the Engineer.

Where a feather edge would be produced at a construction joint, as in the top surface of a sloping wall, an insert form shall be used so that the resulting edge thickness on either side of the joint is not less than 6 inches.

In walls and columns, as each lift is completed, the top surfaces shall be immediately and carefully protected from any condition that might adversely affect the hardening of the concrete.

Steel tying and form construction adjacent to concrete in place shall not be started until the concrete has cured at least 12 hours. Before new concrete is deposited on or against concrete that has hardened, the forms shall be retightened. New concrete shall not be placed until the hardened concrete has cured at least 12 hours.

Surfaces of construction joints shall be cleaned of all unsatisfactory concrete, laitance, coatings or debris by washing and scrubbing with a wire brush or wire broom or by other means approved by the Engineer. The surfaces shall be kept moist for at least one hour prior to placement of the new concrete.

14. EXPANSION AND CONTRACTION JOINTS

Expansion and contraction joints shall be made only at locations shown on the drawings.

Exposed concrete edges at expansion and contraction joints shall be carefully tooled or chamfered, and the joints shall be free of mortar and concrete. Joint filler shall be left exposed for its full length with clean and true edges.

Preformed expansion joint filler shall be held firmly in the correct position as the concrete is placed.

When open joints are specified, they shall be constructed by the insertion and subsequent removal of a wooden strip, metal plate or other suitable template in such a manner that the corners of the concrete will not be chipped or broken. The edges of open joints shall be finished with an edging tool prior to removal of the joint strips.

15. WATERSTOPS

Waterstops shall be held firmly in the correct position as the concrete is placed. Joints in metal waterstops shall be soldered, brazed or welded. Joints in rubber or plastic waterstops shall be cemented, welded or vulcanized as recommended by the manufacturer.

16. REMOVAL OF FORMS

Forms shall not be removed without the approval of the Engineer. Forms shall be removed in such a way as to prevent damage to the concrete. Supports shall be removed in a manner that will permit the concrete to take the stresses due to its own weight uniformly and gradually.

17. FINISHING FORMED SURFACES

Immediately after the removal of the forms:

- a. All fins and irregular projections shall be removed from exposed surfaces.
- b. On all surfaces, the holes produced by the removal of form ties, cone-bolts, and she-bolts shall be cleaned, wetted and filled with a dry-pack mortar consisting of one part portland cement, three parts sand that will pass a No. 16 sieve, and water just sufficient to produce a consistency such that the filling is at the point of becoming rubbery when the material is solidly packed.

18. FINISHING UNFORMED SURFACES

All exposed surfaces of the concrete shall be accurately screeded to grade and then float finished, unless specified otherwise.

Excessive floating or troweling of surfaces while the concrete is soft will not be permitted.

The addition of dry cement or water to the surface of the screeded concrete to expedite finishing will not be allowed.

Joints and edges on unformed surfaces that will be exposed to view shall be chamfered or finished with molding tools.

19. CURING

Concrete shall be prevented from drying for a curing period of at least 7 days after it is placed. Exposed surfaces shall be kept continuously moist for the entire period, or until curing compound is applied as specified below. Moisture shall be maintained by sprinkling, flooding or fog spraying or by covering with continuously moistened canvas, cloth mats, straw, sand or other approved material. Wood forms (except plywood) left in place during the curing period shall be kept wet. Formed surfaces shall be thoroughly wetted immediately after forms are removed and shall be kept wet until patching and repairs are completed. Water or covering shall be applied in such a way that the concrete surface is not eroded or otherwise damaged.

Concrete, except at construction joints, may be coated with an approved curing compound in lieu of continued application of moisture. The compound shall be sprayed on the moist concrete surfaces as soon as free water has disappeared, but shall not be applied to any surface until patching, repairs and finishing of that surface are completed. The compound shall be applied at a uniform rate of not less than one gallon per 150 square feet of surface and shall form a continuous adherent membrane over the entire surface. Curing compound shall not be applied to surfaces requiring bond to subsequently placed concrete, such as construction joints, shear plates, reinforcing steel and other embedded items. If the membrane is damaged during the curing period, the damaged area shall be resprayed at the rate of application specified above.

20. REMOVAL OR REPAIR

When concrete is honeycombed, damaged or otherwise defective, the Contractor shall remove and replace the structure or structural member containing the defective concrete or, where feasible, correct or repair the defective parts. The Engineer will determine the required extent of removal, replacement or repair. Prior to starting repair work the Contractor shall obtain the Engineer's approval of his plan for effecting the repair. The Contractor shall perform all repair work in the presence of the Engineer.

21. CONCRETING IN COLD WEATHER

Concrete shall not be mixed nor placed when the daily minimum atmospheric temperature is less than 40°F unless facilities are provided to prevent the concrete from freezing. The use of accelerators or antifreeze compounds will not be allowed.

22. CONCRETING IN HOT WEATHER

The Contractor shall apply effective means to maintain the temperature of the concrete below 90°F during mixing, conveying and placing.

23. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, concrete will be measured to the neat lines shown on the drawings and the volume of concrete will be computed to the nearest 0.1 cubic yard. Measurement of concrete placed against the sides of an excavation without the use of intervening forms will be made only to the neat lines or pay limits shown on the drawings. No deduction in volume will be made for chamfers, rounded or beveled edges or for any void or embedded item that is less than 3 cubic feet in volume.

Payment for each item of concrete for minor structures will be made at the contract unit price or the contract lump sum, whichever is applicable, for that item. Such payment will constitute full compensation for all labor, materials, equipment, transportation, tools, forms, falsework, bracing and all other items necessary and incidental to the completion of the work, except items listed for payment elsewhere in the contract.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 24 of this specification.

23. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Subsidiary Item, Concrete

- (1) This item shall consist of furnishing, forming and placing all concrete required to construct the 6-inch concrete cap in the embankment drain trench crossing the roads between Station 677+64± and Station 678+24± (Palo Verde Road) and between Station 787+55± and Station 788+08±. (Johnson Road)
- (2) Cement shall be Type II or IIA.
- (3) Coarse aggregate shall be size No. 67 in accordance with ASTM C 33.
- (4) No separate payment will be made for concrete. Compensation for this work will be included in the payment for Drain Fill, Bid Item 5.

CONSTRUCTION SPECIFICATION

34. STEEL REINFORCEMENT

1. SCOPE

The work shall consist of furnishing and placing steel reinforcement for reinforced concrete or pneumatically applied mortar.

2. MATERIALS

Steel reinforcement shall conform to the requirements of Material Specification 539. Before reinforcement is placed the surfaces of the bars and fabric and any metal supports shall be cleaned to remove any loose, flaky rust, mill scale, oil, grease or other coatings or foreign substances. After placement the reinforcement shall be maintained in a clean condition until it is completely embedded in the concrete.

3. BAR SCHEDULE, LISTS AND DIAGRAMS

Any supplemental bar schedules, bar lists or bar-bending diagrams required to accomplish the fabrication and placement of reinforcement shall be provided by the Contractor. Prior to placement of reinforcement, the Contractor shall furnish three prints or copies of any such lists or diagrams to the Contracting Officer. Acceptance of the reinforcement will not be based on approval of these lists or diagrams but will be based on inspection of the reinforcement after it has been placed.

4. BENDING

Reinforcement shall be cut and bent in compliance with the requirements of the American Concrete Institute Standard 315. Bars shall not be bent or straightened in a manner that will injure the material. Bars with kinks, cracks or improper bends will be rejected.

5. SPLICING BAR REINFORCEMENT

Unless otherwise specified on the drawings, splices of reinforcing bars shall provide an overlap equal to at least 30 times the diameter of the smaller bar in the splice but not less than 12 inches.

6. SPLICING WELDED WIRE FABRIC

Welded wire fabric shall be spliced in the following manner:

- a. Adjacent sections shall be spliced end to end by either:
 - (1) Overlapping the two pieces of fabric one full mesh (measured from the ends of the longitudinal wires in one piece to the ends of the longitudinal wires in the other piece) and securing the two pieces together with wire ties placed at intervals of 18 inches; or,
 - (2) Overlapping the two pieces of fabric so that the end crosswire of each piece comes in contact with the next-to-end crosswire of the other piece and securing the two pieces together only as required to keep the fabric in place and to prevent it from curling.
- b. Adjacent sections of fabric shall be spliced side to side by either:
 - (1) Placing the two selvage wires (the longitudinal wires at the edges of the fabric) one along side and overlapping the other and securing the two pieces together with wire ties placed at intervals of 3 feet; or,
 - (2) Placing each selvage wire in the middle of the first mesh of the other section of fabric and securing it to the other section at intervals of 10 feet by means of wire ties placed on the selvage wires alternately at intervals of 5 feet.
 - (3) Placing each selvage wire in contact with the next-to-edge longitudinal wire and securing them together only as required to keep the fabric in place or to prevent it from curling.

7. PLACING

Reinforcement shall be accurately placed and secured in position in a manner that will prevent its displacement during the placement of concrete. Tack welding of bars will not be permitted. Metal chairs, metal hangers, metal spacers and concrete chairs

may be used to support the reinforcement. Metal hangers, spacers and ties shall be placed in such a manner that they will not be exposed in the finished concrete surface. The legs of metal chairs that may be exposed at the lower face of slabs or beams shall be galvanized as specified for iron and steel hardware in Material Specification 582. Precast concrete chairs shall be manufactured of the same class of concrete as that specified for the structure and shall have tie wires securely anchored in the chair or a V-shaped groove at least 3/4 inch in depth molded into the upper surface to receive the steel bar at the point of support. Precast concrete chairs shall be moist at the time concrete is placed.

Reinforcement shall not be placed until the prepared site has been inspected and approved by the Engineer. After placement of the reinforcement, concrete shall not be placed until the reinforcement has been inspected and approved by the Engineer.

8. MEASUREMENT AND PAYMENT

(Method 1) For items of work for which specific unit prices are established in the contract, the weight of reinforcement placed in the concrete in accordance with the drawings will be determined to the nearest pound by computation from the placing drawings. Measurement of hooks and bends will be based on the requirements of ACI Standard 315. Computation of weights of reinforcement will be based on the unit weights established in Tables 34-1, 34-2, and 34-3. The area of welded wire fabric reinforcement placed in the concrete in accordance with the drawings will be determined to the nearest square foot by computation from the placing drawings with no allowance for laps. The weight of steel reinforcing in extra splices or extra-length splices approved for the convenience of the Contractor or the weight of supports and ties will not be included in the measurement for payment.

Payment for furnishing and placing reinforcing steel will be made at the contract unit price. Such payment will constitute full compensation for all labor, materials, equipment and all other items necessary and incidental to the completion of the work including preparing and furnishing bar schedules, lists or diagrams; furnishing and attaching ties and supports; and furnishing, transporting, cutting, bending, cleaning and securing all reinforcement.

(Method 2) For items of work for which specific unit prices are established in the contract, the weight of bar reinforcement placed in the concrete in accordance with the drawings will be determined

to the nearest pound by computation from the placing drawings. Measurement of hooks and bends will be based on the requirements of ACI Standard 315. Computation of weights of bar reinforcement will be based on the unit weights established in Table 34-1. The weight of steel reinforcing in extra splices or extra-length splices approved for the convenience of the Contractor or the weight of supports and ties will not be included in the measurement for payment.

The area of welded wire fabric reinforcement placed in the concrete in accordance with the drawings will be determined to the nearest square foot by computation from the placing drawings with no allowance for laps.

Payment for furnishing and placing bar reinforcing steel will be made at the contract unit price for bar reinforcement. Payment for furnishing and placing welded wire fabric reinforcing steel will be made at the contract unit price for welded wire fabric reinforcement. Such payment will constitute full compensation for all labor, materials, equipment and all other items necessary and incidental to the completion of the work including preparing and furnishing bar schedules, lists or diagrams; furnishing and attaching ties and supports; and furnishing, transporting, cutting, bending, cleaning and securing all reinforcement.

(Use with Either Method) Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and items to which they are made subsidiary are identified in Section 9 of this specification.

TABLE 34-1. STANDARD REINFORCING BARS

Bar Size No.	2	3	4	5	6	7	8	9	10	11
Wt. (lb./ft.)	0.167	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313

TABLE 34-2. RECTANGULAR WELDED WIRE FABRIC ¹

Style Designation	Wt. in Lb. Per 100 Sq. Ft.	Style Designation	Wt. in Lb. Per 100 Sq. Ft.	Style Designation	Wt. in Lb. Per 100 Sq. Ft.
24-1414	16	312- 711	39	43- 912	23
212- 04	169	312- 812	32	48-1012	20
212- 15	144	412- 26	69	48-1112	17
212- 26	124	412- 37	59	48-1212	14
212- 37	107	412- 48	51	48-1214	12
212- 48	91	412- 59	43	612-3/04	91
212- 59	77	412- 610	36	612-2/04	78
212- 610	66	412- 711	31	612- 00	81
212- 711	56	412- 810	27	612- 03	72
312- 04	119	412- 812	25	612- 11	69
312- 15	102	412- 912	22	612- 14	61
312- 26	87	412-1012	19	612- 22	59
312- 37	75	412-1112	16	612- 25	52
312- 48	64	412-1212	13	612- 33	51
312- 59	54	48- 711	33	612- 44	44
312- 610	46	48- 812	27	612- 66	32
				612- 77	27

¹Style designation is defined in ACI Standard 315 of the American Concrete Institute.

TABLE 34-3. SQUARE WELDED WIRE FABRIC¹

Style Designation	Wt. in Lb. Per 100 Sq. Ft.	Style Designation	Wt. in Lb. Per 100 Sq. Ft.
2 x 2 - 10/10	60	4 x 4 - 14/14	11
2 x 2 - 12/12	37	6 x 6 - 0/0	107
2 x 2 - 14/14	21	6 x 6 - 1/1	91
2 x 2 - 16/16	13	6 x 6 - 2/2	78
3 x 3 - 8/8	58	6 x 6 - 3/3	68
3 x 3 - 10/10	41	6 x 6 - 4/4	58
3 x 3 - 12/12	25	6 x 6 - 4/6	50
3 x 3 - 14/14	14	6 x 6 - 5/5	49
4 x 4 - 4/4	85	6 x 6 - 6/6	42
4 x 4 - 6/6	62	6 x 6 - 7/7	36
4 x 4 - 8/8	44	6 x 6 - 8/8	30
4 x 4 - 10/10	31	6 x 6 - 9/9	25
4 x 4 - 12/12	19	6 x 6 - 10/10	21
4 x 4 - 13/13	14		

¹Style designation is defined in ACI Standard 315 of the American Concrete Institute.

9. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Subsidiary Item, Welded Wire Fabric

- (1) This item shall consist of furnishing and installing all the welded wire fabric reinforcement required in the construction of the 6" concrete cap.
- (2) In Section 6, Splicing Welded Wire Fabric, Sections a.(2) and b.(3) will apply.
- (3) No separate payment will be made for welded wire fabric reinforcement. Compensation for this work will be included in the payment for Bid Item No. 5, Drain Fill.

CONSTRUCTION SPECIFICATION

400. PAVEMENT REPLACEMENT

1. SCOPE

The work shall consist of replacement of existing road pavement after the installation of the permanent works.

2. APPLICABLE STANDARD SPECIFICATIONS

All the work specified herein shall comply with the requirements of the following referenced specifications, including revisions, except as modified herein.

UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

Maricopa Association of Governments
July 1, 1974 Arizona

3. GENERAL

Type and time of construction required at roads subject to interference by the contract work shall be determined by those authorities responsible for maintenance of such roads. The authority within the project limits is:

Maricopa County Highway Department
3335 West Durango Road
Phoenix, Arizona 85009

It shall be the responsibility of the contractor to determine the nature and extent of all such requirements.

4. UNTREATED BASE

The untreated base shall be installed in accordance with Section 310 of the referenced specifications. The base material shall be crushed aggregate in accordance with Section 702. Untreated base aggregate shall be placed in three (3) lifts.

5. BITUMINOUS PRIME COAT

The bituminous prime coat shall be installed in accordance with Section 315. Materials shall conform to the requirements of Section 712 and Table 712-2 for Grade MC 250. The liquid asphalt shall be applied at the rate of 0.5 gallon per square yard of surface.

6. ASPHALT CONCRETE PAVEMENT

The asphalt concrete pavement shall be installed in accordance with Section 321. Materials shall conform with the requirements of Section 710, except no mineral filler or blending sand will be required. Asphalt shall be AR 4000 and

conform to the requirements of Section 711. The mineral aggregate shall meet the grading requirements within the range of specified tolerances for mix designation C-3/4.

7. PRESERVATIVE SEAL FOR ASPHALT CONCRETE

The preservative seal shall be installed in accordance with Section 334. The material shall conform to Section 718 and shall be applied at the rate of 0.07 of a gallon of diluted mixture per square yard.

8. MEASUREMENT AND PAYMENT

For items of work for which specific unit prices are established in the contract, the dimensions of the surface of the pavement replacement will be measured to the neat lines shown on the drawing and the surface area will be computed to the nearest square yard. Payment will be made at the contract price for pavement replacement. Such payment will constitute full compensation for all labor, materials, equipment and all other items necessary and incidental to the work.

Compensation for any item of work described in the contract, but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary.

9. ITEMS OF WORK AND CONSTRUCTION DETAILS

Items of work to be performed in conformance with this specification and the construction details are:

a. Bid Item 8, Pavement Replacement

- (1) This item shall consist of the replacement of the existing asphalt concrete pavement including the untreated base and preservative seal within the following limits as shown on the drawings and staked in the field.

Between Station 677+73± and Station 678+15± centerline Dike.
(Palo Verde Road).

Between Station 787+64± and Station 787+99± centerline dike.
(Johnson Road).

- (2) Payment will be made in accordance with Section 8.

MATERIAL SPECIFICATION

521. AGGREGATES FOR DRAIN FILL AND FILTERS

1. SCOPE

This specification covers the quality of mineral aggregates for the construction of drain fill and filters.

2. QUALITY

Drain fill and filter aggregates shall be sand, gravel or crushed stone or mixtures thereof. They shall be composed of clean, hard, durable mineral particles free from organic matter, clay balls, soft particles or other substances that would interfere with their free-draining properties. Not more than 15 percent, by weight, shall be flat, elongated particles.

Aggregates of crushed limestone shall be thoroughly washed and screened. Coarse aggregates containing crushed limestone shall have not more than 3 percent, by weight, of particles finer than the No. 4 sieve. Crushed limestone shall not be used for fine aggregates except in combination with other materials such that not more than 5 percent of the portion finer than the No. 4 sieve shall be crushed limestone.

Aggregates shall be tested for soundness according to ASTM Method C 88, and shall have a weighted average loss in five cycles of not more than 12 percent when sodium sulfate is used or 18 percent when magnesium sulfate is used.

3. GRADING

Drain fill and filter aggregates shall conform to the specified grading limits after being placed in the work, and after being compacted if compaction is specified. Grading shall be determined by ASTM Method C 136, but the percentage of material finer than a No. 200 sieve shall be not more than 3 percent when determined by ASTM Method C 117.

4. STORING AND HANDLING

Drain fill and filter aggregates shall be stored and handled by methods that prevent segregation of particle sizes or contamination by mixing with other materials.

MATERIAL SPECIFICATION

522. AGGREGATE FOR PORTLAND CEMENT CONCRETE

1. SCOPE

This specification covers the quality of fine aggregate and coarse aggregate for use in the manufacture of portland cement concrete.

2. QUALITY

Aggregate shall conform to the requirements of ASTM Specification C-33 for the specified sizes. Aggregates that fail to meet any requirement may be accepted only when: (1) the specified alternate conditions of acceptance can be proved prior to the use of the aggregates on the job and within a period of time such that no work under the contract will be delayed by the requirements of such proof; or, (2) the specification for concrete expressly contains a provision of special mix requirements to compensate for the effects of the deficiencies.

3. REACTIVITY WITH ALKALIES

The potential reactivity of aggregates with the alkalies in cement shall be evaluated by petrographic examination and, where applicable, the chemical method of test, ASTM Designation C 289, or by the results of previous tests or service records of concrete made from similar aggregates from the same source. The standards for evaluating potential reactivity shall be as described in ASTM Specification C 33, Appendix A1.

Aggregates indicated by any of the above to be potentially reactive shall not be used, except under one of the following conditions:

- a. Applicable test results of mortar bar tests, made according to ASTM Method C 227, are available which indicate an expansion of less than 0.10 percent at six months in mortar bars made with cement containing not less than 0.8 percent alkalies expressed as sodium oxide; or
- b. Concrete made from similar aggregates from the same source has been demonstrated to be sound after 3 years or more of service under conditions of exposure to moisture and weather similar to those anticipated for the concrete under these specifications.

MATERIAL SPECIFICATION

531. PORTLAND CEMENT

1. SCOPE

This specification covers the quality of portland cements.

2. QUALITY

Portland cement shall conform to the requirements of ASTM Specification C 150 for the specified types of cement, except that, when Type I portland cement is specified, Type IS portland blast-furnace slag cement or Type IP portland-pozzolan cement conforming to the requirements of ASTM Specification C 595 may be used unless prohibited in the specifications.

If air-entraining cement is to be used, the Contractor shall furnish the manufacturer's written statement giving the source, amount and brand name of the air-entraining addition.

3. STORAGE AT THE CONSTRUCTION SITE

Cement shall be stored in such a manner as to be protected from weather, dampness or other destructive agencies. Cement that is partially hydrated or otherwise damaged will be rejected.

MATERIAL SPECIFICATION

535. PREFORMED EXPANSION JOINT FILLER

1. SCOPE

This specification covers the quality of preformed expansion joint fillers for concrete.

2. QUALITY

Preformed expansion joint filler shall conform to the requirements of ASTM Specification D 1752, Type I, Type II or Type III, unless bituminous type is specified. Bituminous type preformed expansion joint filler shall conform to the requirements of ASTM Specification D 994.

MATERIAL SPECIFICATION

537. NON-METALLIC WATERSTOPS

1. SCOPE

This specification covers non-metallic waterstops for use in joints of concrete structures.

2. CLASSIFICATION

- a. Classes. Non-metallic waterstops shall be of the following classes, as specified:

Class I shall be made of either natural or synthetic rubber.

Class II shall be made of vinyl chloride polymer or copolymer.

- b. Types. Non-metallic waterstops may be either split or solid and shall conform to the following types, as specified (see Figure 1):

Type A shall have ribbed anchor flanges and a smooth web. Flanges may be of uniform thickness or may have either a converging or a diverging taper toward the edges.

Type B shall have ribbed anchor flanges and a smooth web containing a hollow tubular center bulb having: (1) a wall thickness equal to at least one-half the web thickness and (2) the inside diameter (D) specified in the contract. Flanges may be of uniform thickness or may have either a converging or a diverging taper toward the edges.

Type C shall have a single, circular, bulb-type anchor flange at each edge and a smooth web.

Type D shall have a single, circular, bulb-type anchor flange at each edge and a smooth web containing a hollow tubular center bulb having: (1) a wall thickness equal to at least one-half the thickness of the web and (2) the inside diameter (D) specified in the contract.

(537-1)

Type E shall have ribbed anchor flanges and a web molded or extruded in the form of a round or U-shaped bulb of the dimensions specified in the contract. The web bulb shall be connected at the open end of the "U" by a thin membrane (having a thickness of not less than 1/64-inch or more than 1/5 the web thickness) designed to: (1) prevent infiltration of wet concrete into the bulb and (2) tear when expansion of the joint occurs. Flanges may be of uniform thickness or may have either a converging or a diverging taper toward the edges. Auxilliary positioning or nailing flanges may be provided so long as they do not interfere with the functioning of the web bulb.

Type F shall have ribbed anchor flanges with at least two extra heavy ribs (designed to resist displacement of the waterstop during placement of concrete) on each flange and a smooth web having a positioning or nailing flange attached at the center.

Type G shall be of special design conforming to the details shown on the drawings.

- c. Sizes. Waterstops of Types A through F shall be of the sizes listed herein, as specified (see Table 1). Type G waterstops shall have the dimensions shown on the drawings.

3. PHYSICAL REQUIREMENTS

The extruded or molded materials shall exhibit the properties specified herein when tested by the methods specified in Section 4 of this specification.

a. Class I Waterstops

- (1) The hardness (Shore A durometer) shall be not less than 60.
- (2) The specific gravity shall be not more than 1.2.
- (3) The tensile strength shall be not less than 2500 pounds per square inch.
- (4) The ultimate elongation shall be not less than 450 percent.

- (5) The compression set shall be not more than 30 percent.
- (6) The water absorption (by weight) shall be not more than 5 percent.
- (7) The decrease in tensile strength and ultimate elongation after aging shall be not more than 20 percent.
- (8) There shall be no sign of failure due to brittleness at a temperature of minus 35°F.

b. Class II Waterstops

- (1) The hardness (Shore A durometer) shall be not less than 60.
- (2) The specific gravity shall be not more than 1.4.
- (3) The tensile strength shall be not less than 1400 pounds per square inch.
- (4) The ultimate elongation of the web shall be not less than 280 percent and that of the flanges shall be not less than 200 percent.
- (5) The water absorption (by weight) shall be not more than one percent.
- (6) There shall be no sign of failure due to flange brittleness at a temperature of 0°F. nor of web brittleness at a temperature of minus 35°F.
- (7) The decrease in either tensile strength or ultimate elongation after accelerated extraction shall be not greater than 15 percent.
- (8) As a result of the effects of alkalies:
 - (a) After immersion for 7 days, the sample shall exhibit no loss of weight and not more than 0.25 percent increase in weight, and the hardness (Shore A) of the treated sample shall differ from that of the untreated sample by not more than plus 5 points or minus 5 points.

(537-3)

- (b) After immersion for 30 days, the sample shall exhibit no loss of weight and not more than 0.40 percent increase in weight, and the dimensions of the treated sample shall not differ from those of the untreated sample by more than one percent.

4. TEST METHODS

Testing shall be done by the methods cited herein. All cited test methods are included in Federal Test Method Standard No. 601.

- a. Hardness shall be determined by Method 3021.
- b. Specific gravity shall be determined by Method 14011.
- c. Tensile strength shall be determined by Method 4111.
- d. Ultimate elongation shall be determined by Method 4121.
- e. Compression set shall be determined by Method 3311.
- f. Water absorption shall be determined by Method 6631.
- g. Tensile strength and ultimate elongation after aging shall be determined by Method 7111.
- h. Brittleness shall be determined by Method 5311.
- i. Accelerated extraction shall be accomplished by Method 6111 under the following conditions:
 - (1) Samples shall be not less than 1/16-inch nor more than 1/8-inch in thickness;
 - (2) The immersion medium shall be a solution made by dissolving 5 grams of chemically pure sodium hydroxide and 5 grams of chemically pure potassium hydroxide in one liter of distilled water;
 - (3) The samples shall be immersed in the medium for 14 days at a temperature of $145^{\circ} \pm 5^{\circ}\text{F}$;
 - (4) During the immersion period, air shall be gently bubbled through the medium from a 1/4-inch glass tube at a rate of about one bubble per second;

(537-4)

- (5) Fresh medium shall be substituted every day;
 - (6) Samples need not be dipped in acetone.
- j. The effects of alkalies shall be determined by Method 6251 under the following conditions:
- (1) Samples shall be not more than 1/4-inch in thickness;
 - (2) The immersion medium shall be as described in (i), above;
 - (3) Fresh medium shall be substituted every 7 days.
 - (4) The samples shall be immersed in the medium for a period of 30 days;
 - (5) Samples need not be dipped in acetone.

5. CONDITION

Waterstops shall be extruded or molded in such a manner that the material is dense and homogeneous throughout and free from voids, tears, thins, indentations, or other imperfections. Unless otherwise specified, waterstops shall be symmetrical in shape and uniform in dimensions and shall be furnished in continuous strips at least 50 feet long. Factory splices shall have a tensile strength equal to at least one-half that of the unspliced section.

6. PACKAGING AND STORING

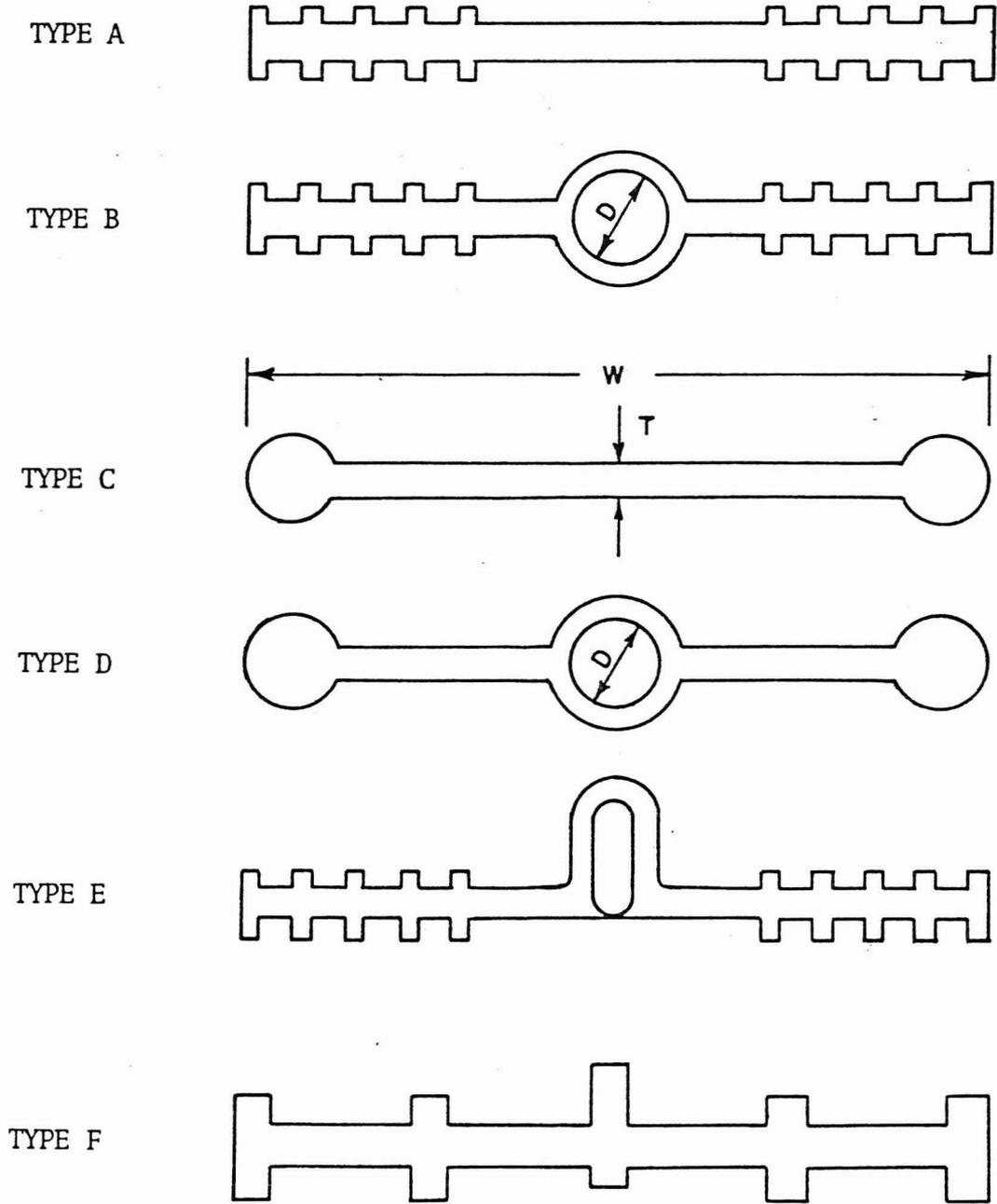
Waterstops shall be package and stored by methods that will protect them from prolonged exposure to direct sunlight or excessive heat.

TABLE 1. SIZES OF WATERSTOPS

<u>Size Designation</u>	<u>Web Thickness (T) (Inches)</u>	<u>Width (W) (Inches)</u>
1	1/16	5 1/4
2	3/32	3 3/4
3	3/32	4
4	3/32	5 1/4
5	3/32	6
6	1/8	4
7	1/8	5 1/4
8	1/8	6
9	5/32	4
10	5/32	4 1/2
11	5/32	9
12	3/16	4
13	3/16	5
14	3/16	6
15	3/16	9
16	1/4	6
17	1/4	9
18	3/8	5
19	3/8	6
20	3/8	9
21	1/2	6
22	1/2	9
23	1/2	12

FIGURE 1

TYPES OF NON-METALLIC WATERSTOPS



(537-7)

MATERIAL SPECIFICATION

538. METAL WATERSTOPS

1. SCOPE

This specification covers the quality of materials for metal waterstops.

2. MATERIALS

Metal waterstops shall be made of copper, wrought iron or galvanized steel as specified. Waterstops that require forming of the metal involving sharp bends shall be made of copper which shall be soft enough to stand being bent cold through 180 degrees at an inside radius equal to its thickness without cracking.

3. QUALITY

Metal for waterstops shall conform to the requirements of the applicable ASTM standard specifications below:

Copper - ASTM Specification B 152

Zinc-coated (Galvanized) steel - ASTM Specification A 526

MATERIAL SPECIFICATION

539. STEEL REINFORCEMENT (FOR CONCRETE)

1. SCOPE

This specification covers the quality of steel reinforcement for reinforced concrete.

2. QUALITY

All reinforcement shall be free from rust, oil, grease, paint or other deleterious matter.

Steel bars for concrete reinforcement requiring bends shall be deformed billet-steel bars conforming to ASTM Specification A 615, Grade 40 or Grade 60.

Straight steel bars shall be deformed bars conforming to one of the following specifications:

Deformed Billet-Steel Bars for Concrete Reinforcement
(Grade 40 or Grade 60) - ASTM Designation A 615.

Rail-Steel Deformed Bars for Concrete Reinforcement
(Grade 50 or Grade 60) - ASTM Designation A 616.

Axle-Steel Deformed Bars for Concrete Reinforcement
(Grade 40 or Grade 60) - ASTM Designation A 617.

Fabricated steel bar mats shall conform to the requirements of ASTM Specification A 184.

Welded steel wire fabric reinforcement shall conform to the requirements of ASTM Specification A 185.

Welded deformed steel wire fabric for concrete reinforcement shall conform to the requirements of ASTM Specification A 497.

Cold-drawn steel wire reinforcement shall conform to the requirements of ASTM Specification A 82.

Deformed steel wire for concrete reinforcement shall conform to the requirements of ASTM Specification A 496.

(539-1)

3. DIMENSIONS OF WELDED WIRE FABRIC

Gages, spacing and arrangement of wires in welded steel wire fabric shall be as defined in ACI Standard 315 of the American Concrete Institute for the specified style designations.

4. STORAGE

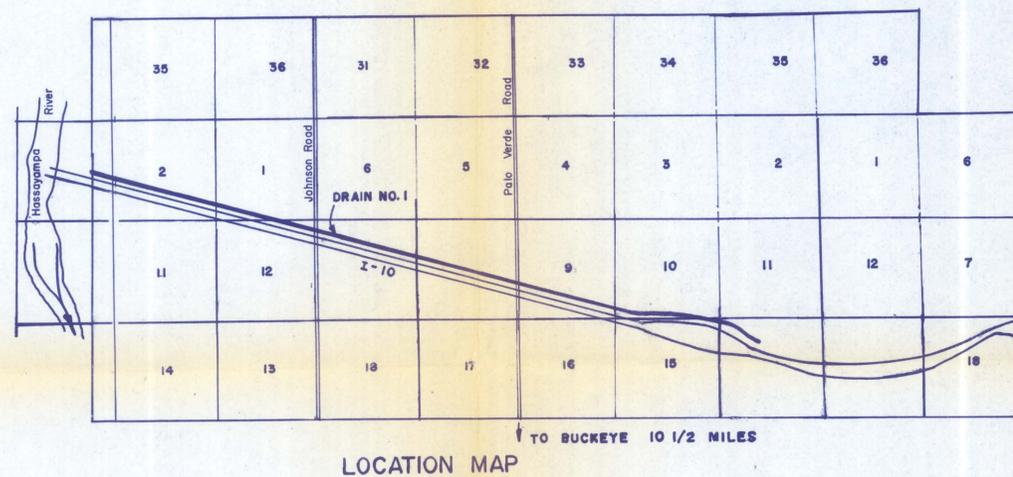
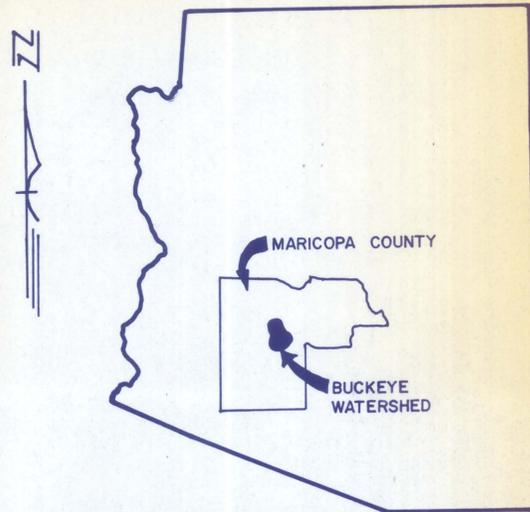
Steel reinforcement stored at the site of the work shall be stored above the ground surface on platforms, skids or other supports and shall be protected from mechanical injury and corrosion.

BUCKEYE WATERSHED PROTECTION AND FLOOD PREVENTION PROJECT MARICOPA COUNTY, ARIZONA

PLANS FOR THE CONSTRUCTION OF **BUCKEYE SITE 1 DRAIN**

PREPARED FOR THE FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY

BY
SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



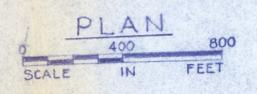
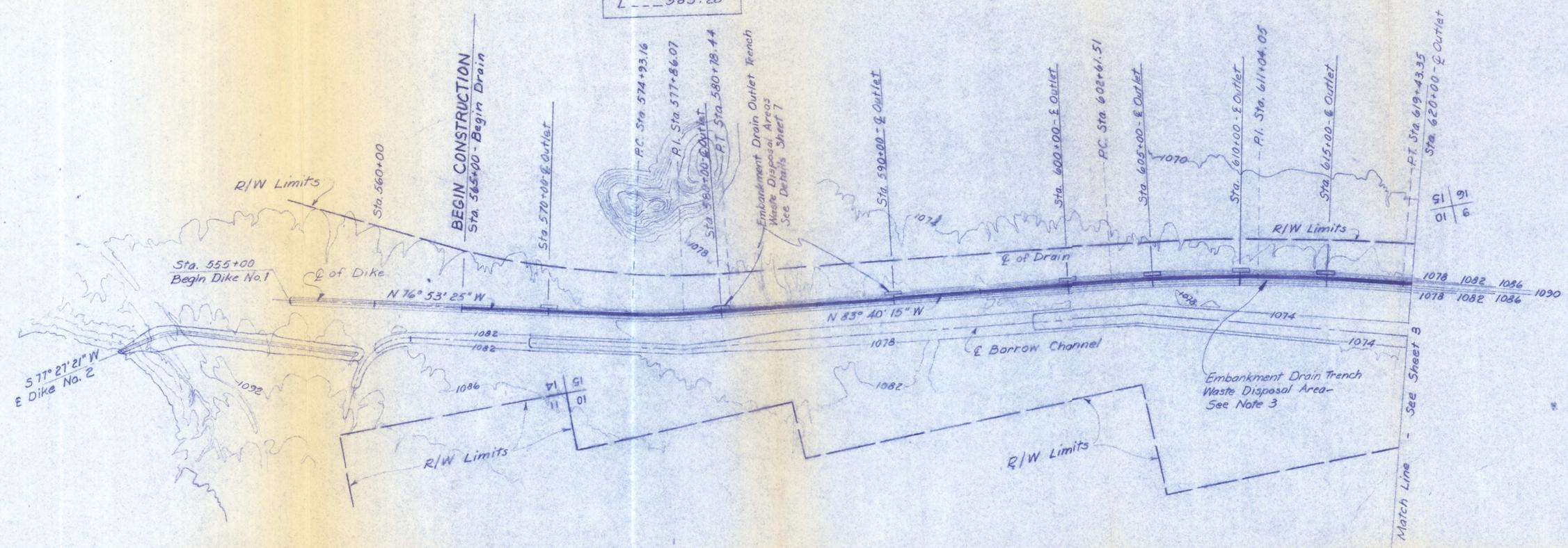
INDEX OF DRAWINGS

DRWG. NO.	SHT. NO.	TITLE	GENERAL NOTES
	1.	INDEX OF DRAWINGS	1. Elevations are in feet above mean sea level U.S.G.S. datum. 2. All stationing refers to centerline of construction and is the measured horizontal distance. 3. All bearings are referenced to True North.
	2-6.	PLAN & PROFILE	
	7.	DETAILS OF EMBANKMENT DRAIN & EMBANKMENT DRAIN OUTLET	

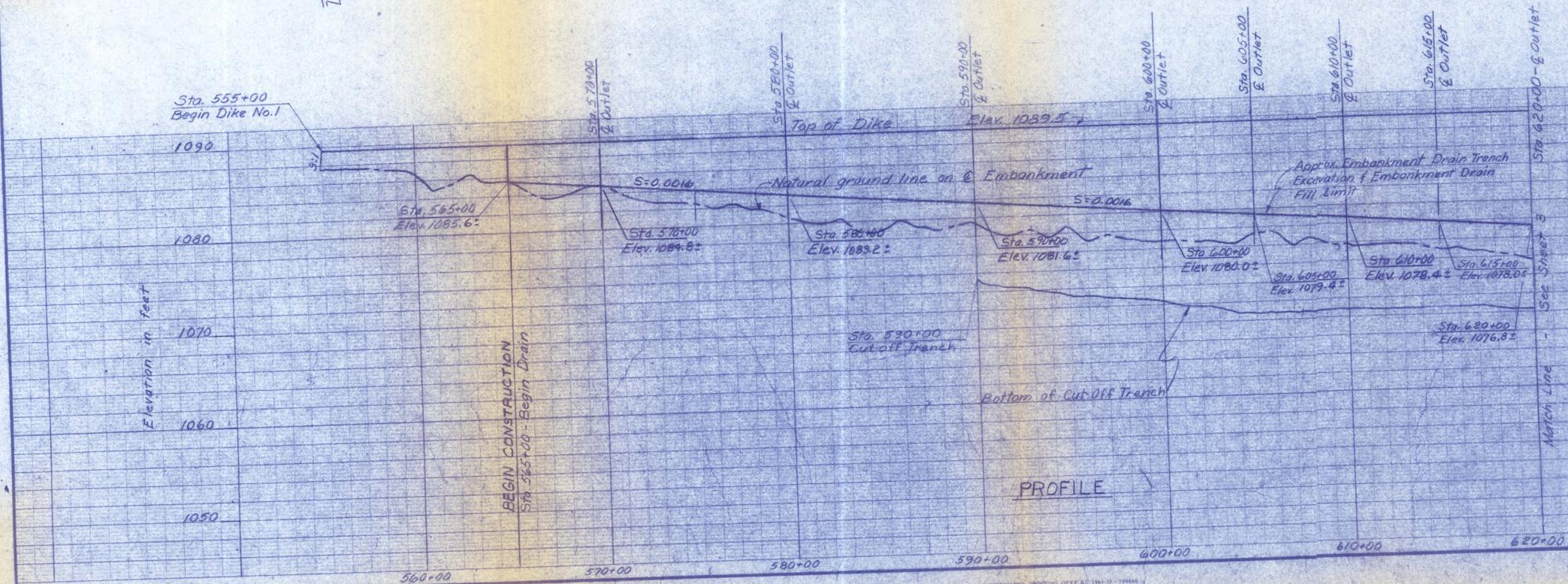
INDEX OF DRAWINGS			
BUCKEYE SITE 1 DRAIN			
BUCKEYE W.P.P.			
MARICOPA COUNTY, ARIZONA			
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed WEP	Date 5-79	Approved by <i>Ralph M. [Signature]</i>	Title Conservation Engineer
Drawn JAM	Date 5-79	Title <i>[Signature]</i>	Title State Engineer
Traced	Sheet	Drawing No.	
Checked PJM	Date 9-79	No. 1	79018-AZ-B
		of 7	

Curve No. 1
 Δ --- 6° 46' 50"
 R --- 4,944.66'
 T --- 292.91'
 L --- 585.28'

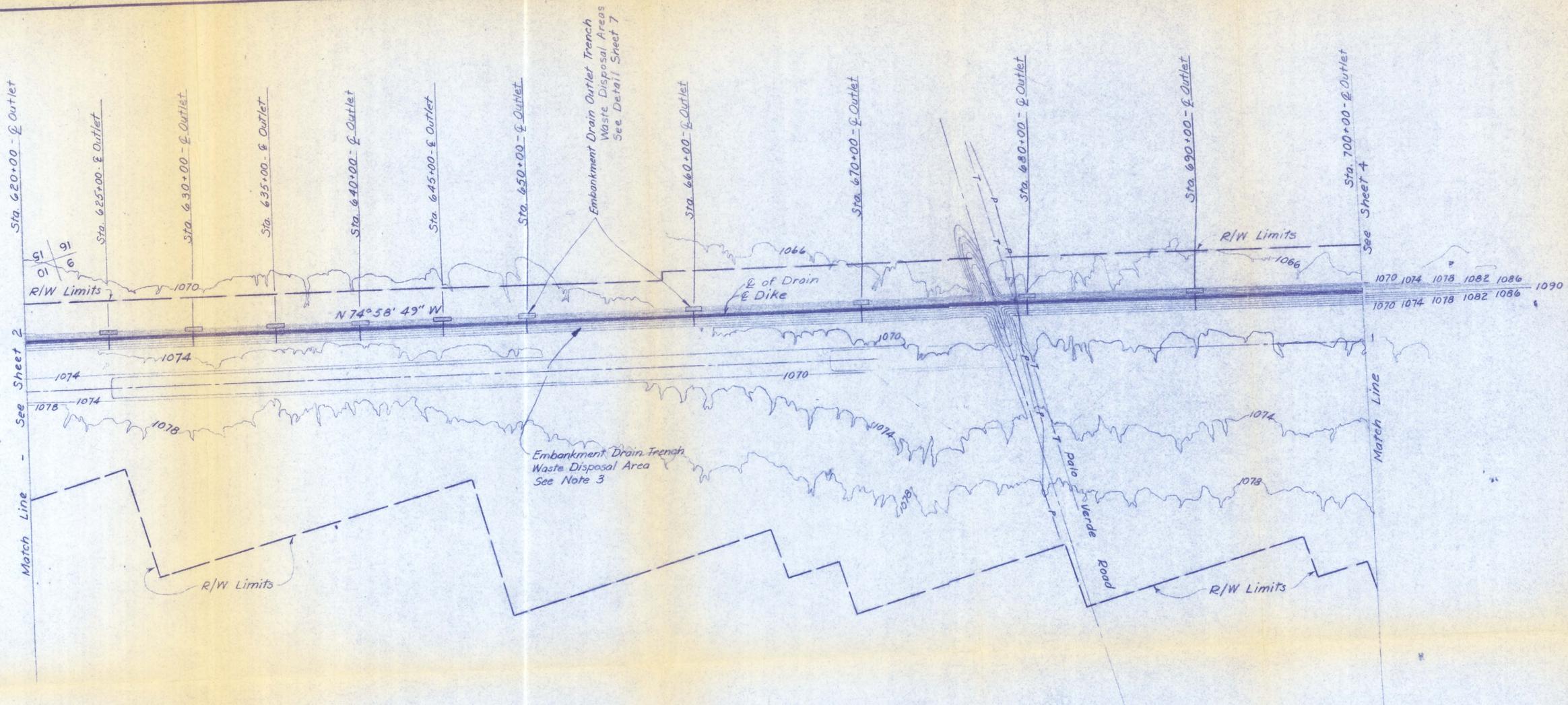
Curve No. 2
 Δ --- 8° 41' 26"
 R --- 11,088.16'
 T --- 842.54'
 L --- 1,681.84'



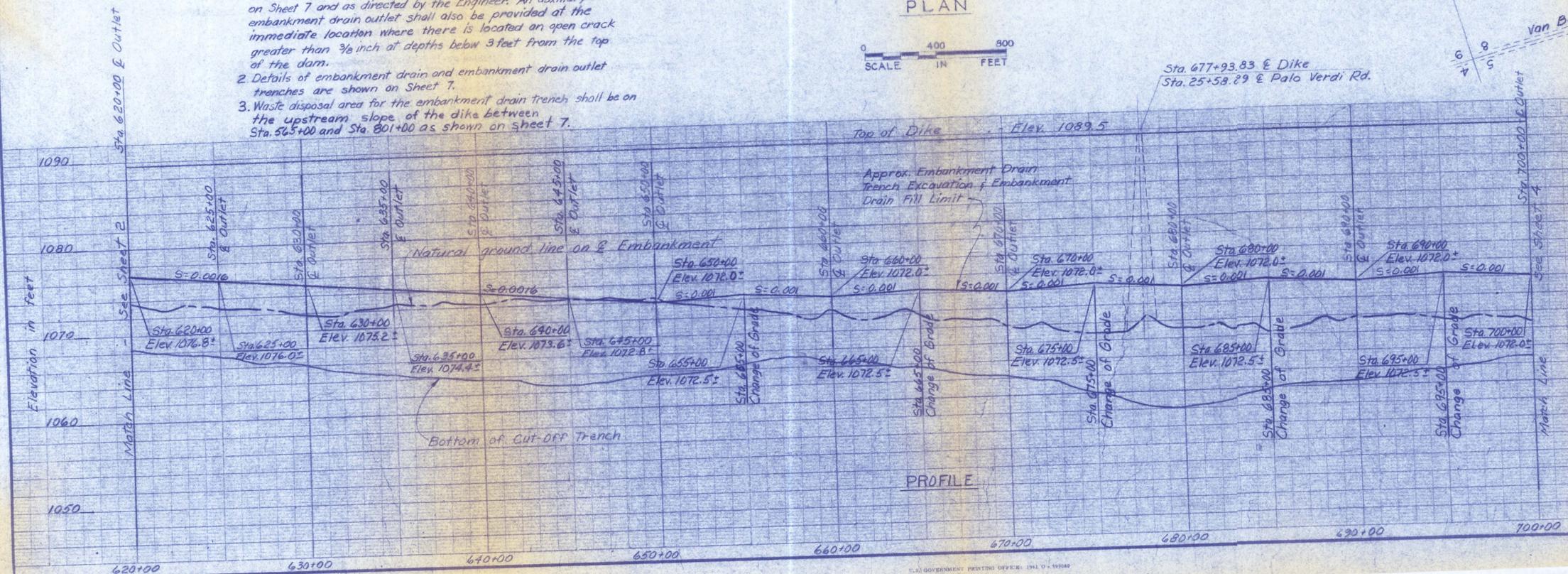
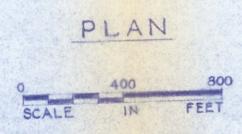
- Notes:
1. All cracks in the upstream face of the embankment drain trench that extend below the trench excavation limit shown on the drawings shall be intercepted by an auxiliary embankment drain outlet trench shown on Sheet 7 and as directed by the Engineer. An auxiliary embankment drain outlet shall also be provided at the immediate location where there is located an open crack greater than 3/8 inch of depths below 3 feet from the top of the dam.
 2. Details of embankment drain and embankment drain outlet trenches are shown on Sheet 7.
 3. Waste disposal area for the embankment drain trench shall be on the upstream slope of the dike between sta. 565+00 and Sta. 801+00 as shown on sheet 7.



PLAN & PROFILE			
BUCKEYE SITE 1 DRAIN			
BUCKEYE WRP			
MARICOPA COUNTY, ARIZONA			
U.S. DEPARTMENT OF AGRICULTURE			
SOIL CONSERVATION SERVICE			
Designed	WEP	Date	5-79
Drawn	JAM	Date	5-79
Traced		Date	
Checked	PJM	Date	7-79
Sheet No. 2 of 7		Drawing No. 79018-AZ-B	



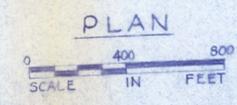
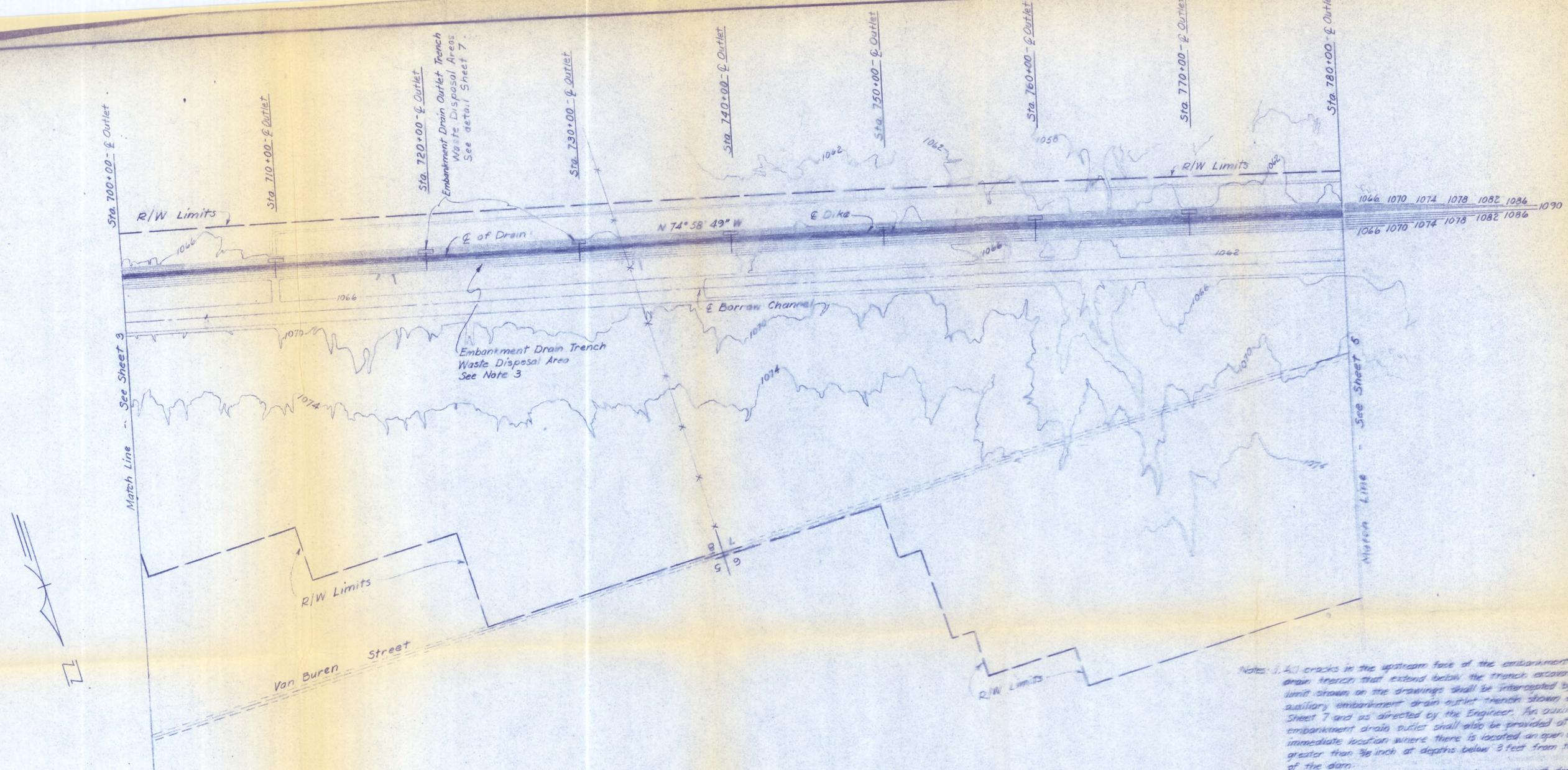
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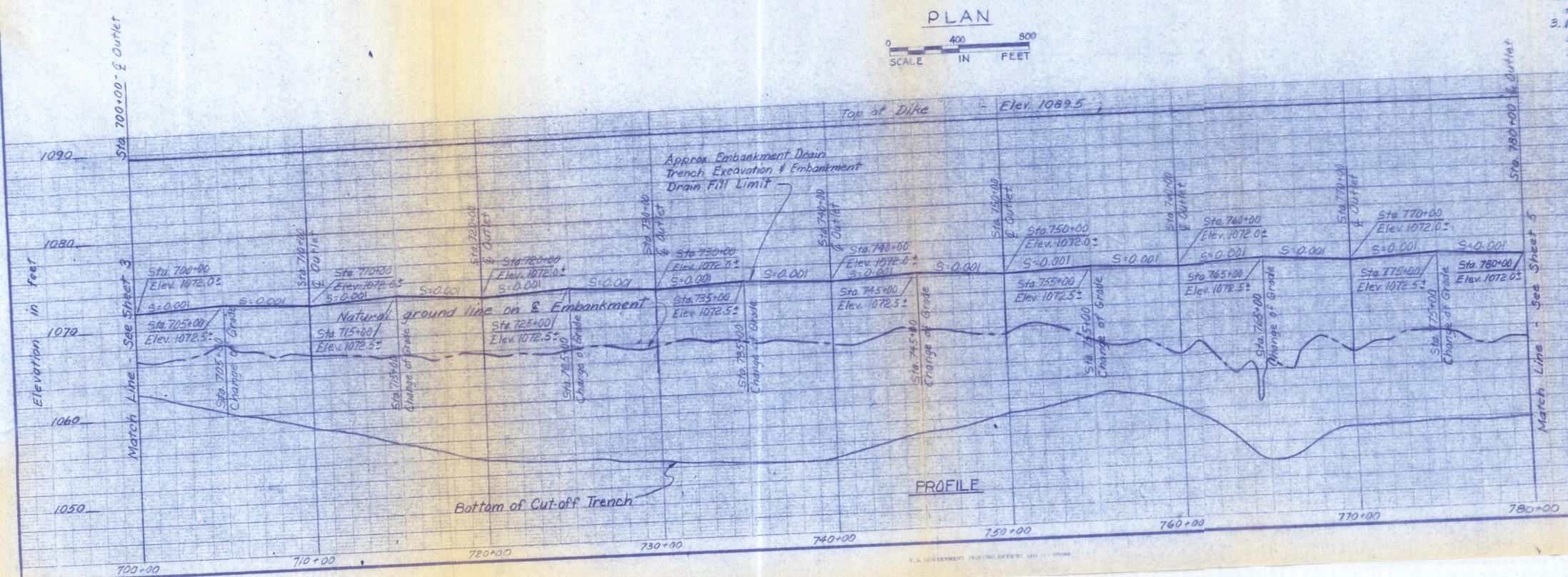
PLAN & PROFILE
BUCKEYE SITE 1 DRAIN
 BUCKEYE WPP
 MARICOPA COUNTY, ARIZONA
 U.S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

Designed	WEP	Date	5-79	Approved by	
Drawn	JAM	Title	5-79		
Traced					
Checked	RJM		9-79		

Sheet No. 3 of 7
 Drawing No. 79018-AZ-B



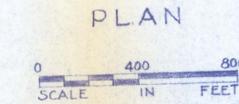
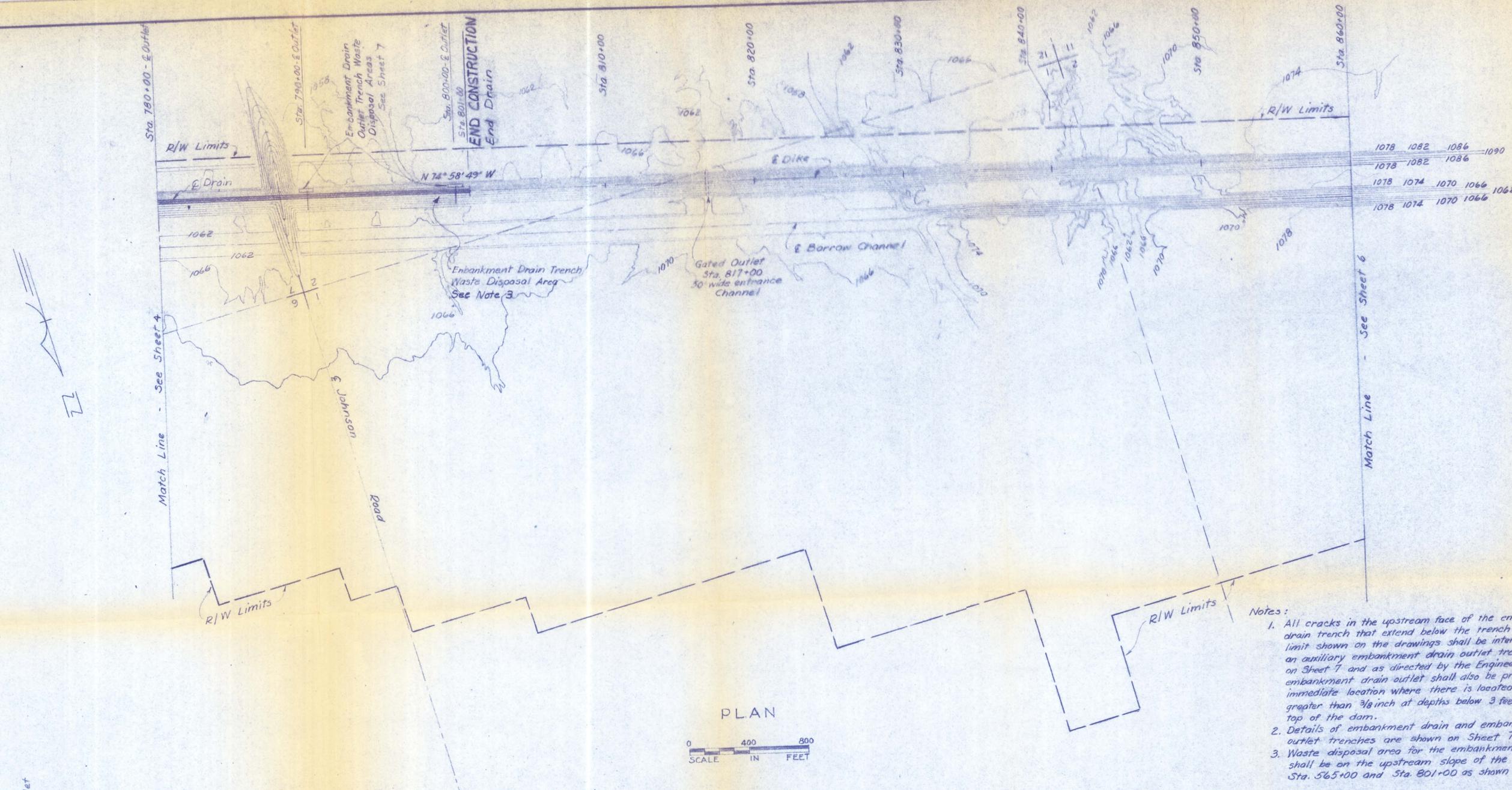
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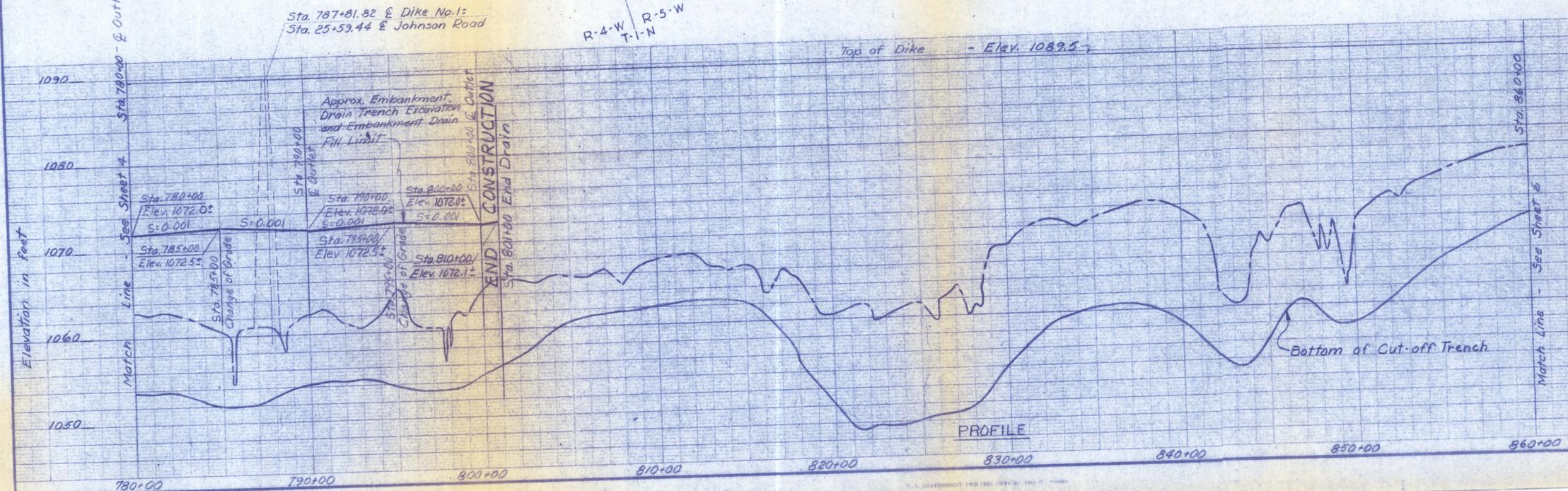
PLAN & PROFILE
BUCKEYE SITE 1 DRAIN
 BUCKEYE W.P.P.
 MARICOPA COUNTY, ARIZONA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

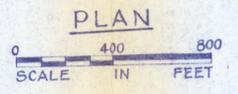
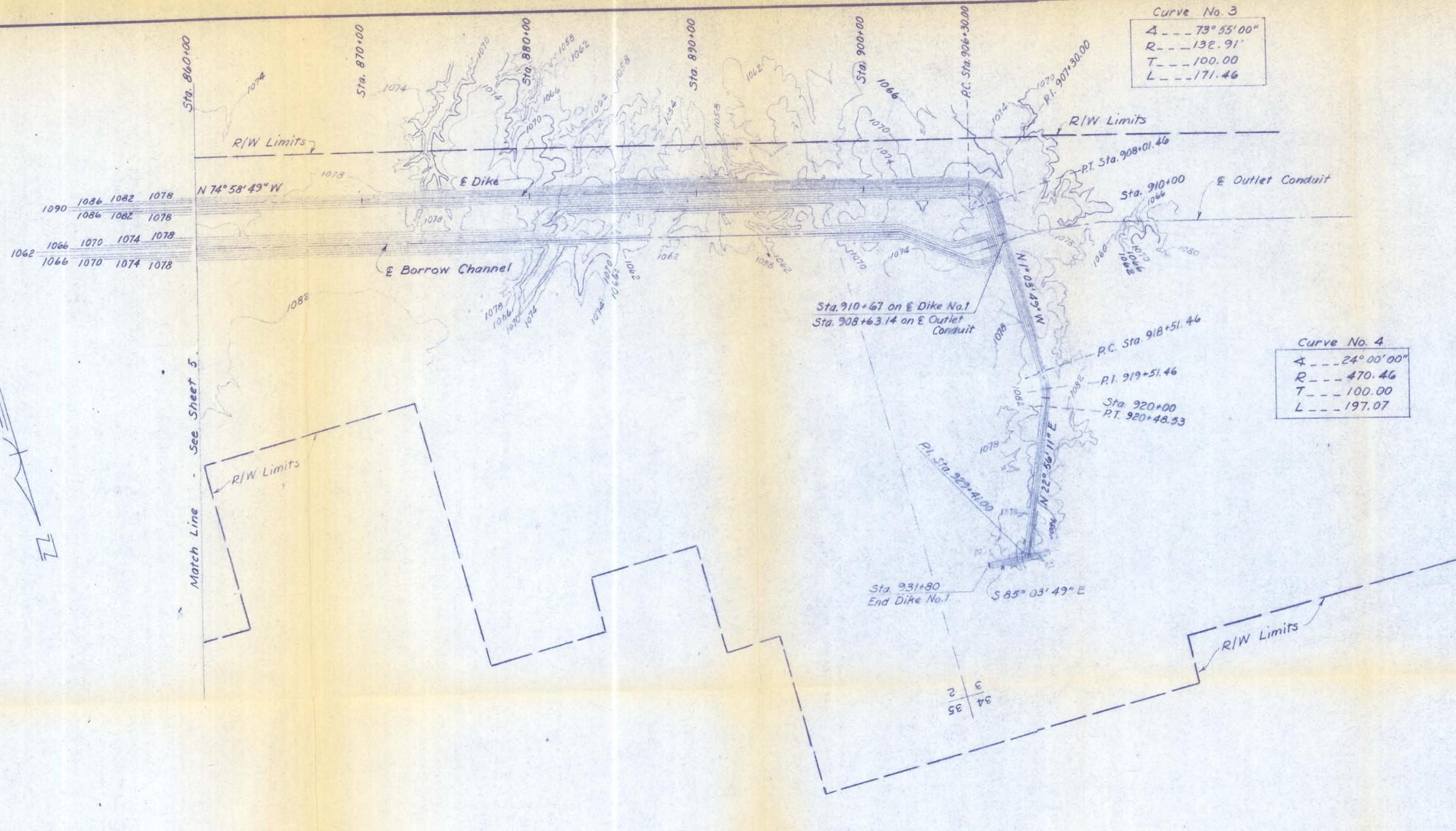
Designed	WEP	Date	5-79	Approved by	
Drawn	JAM	Date	5-79	Title	
Traced					
Checked	PJM	Date	9-79	Sheet No. 4 of 7	Drawing No. 79018-AZ-B



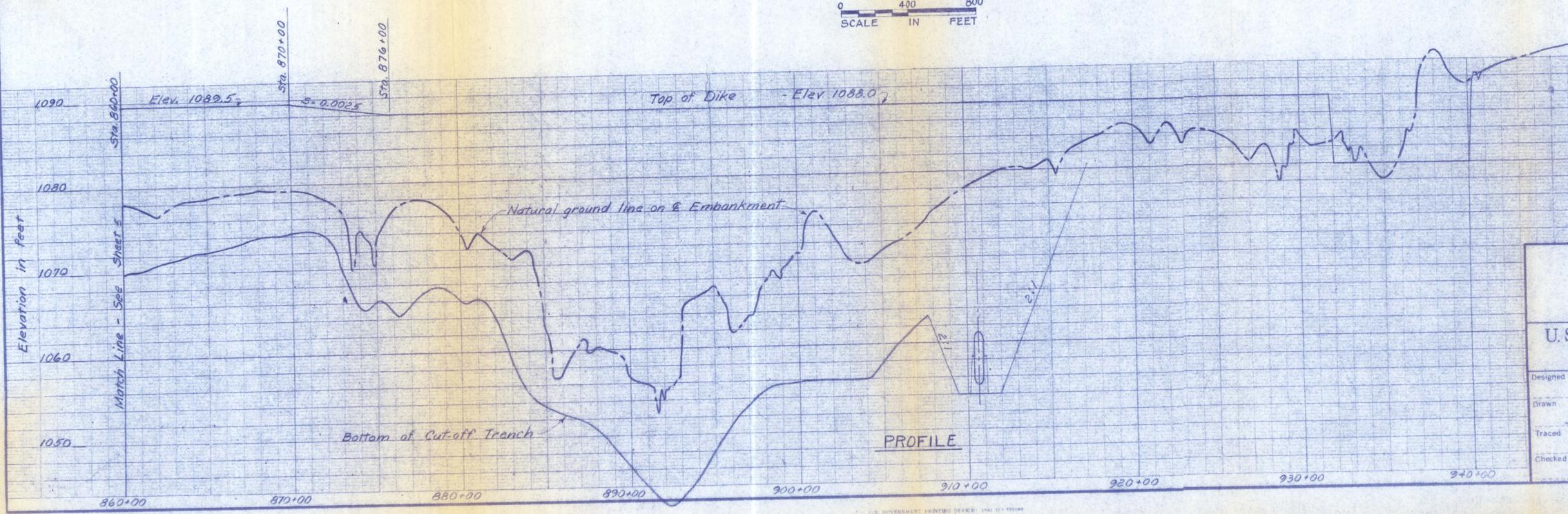
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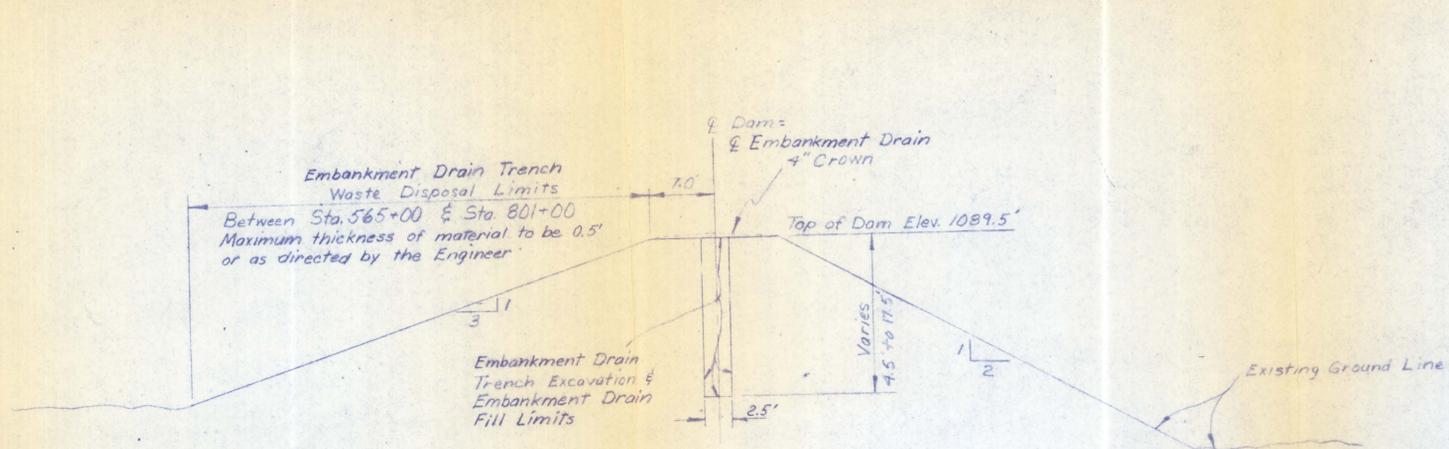
<p>PLAN & PROFILE BUCKEYE SITE 1 DRAIN BUCKEYE W.R.P. MARICOPA COUNTY, ARIZONA U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE</p>			
Designed	WEP	Date	5-79
Drawn	JAM	Approved by	
Traced		Title	
Checked	PJM	Date	9-79
		Title	
		Sheet No.	5 of 7
		Drawing No.	79018-AZ-B



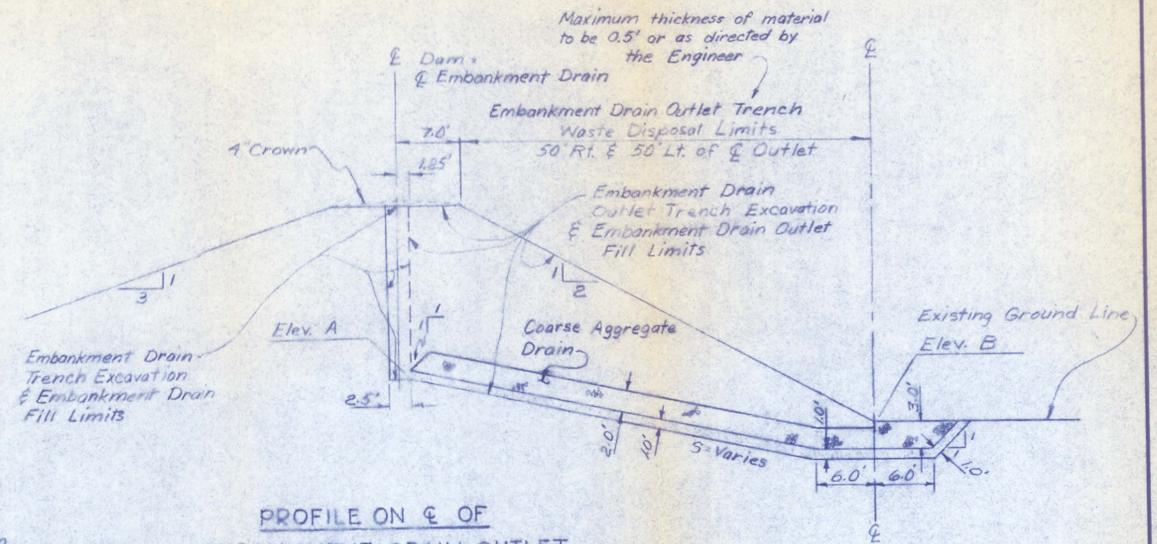
Note: This sheet is included for information only.



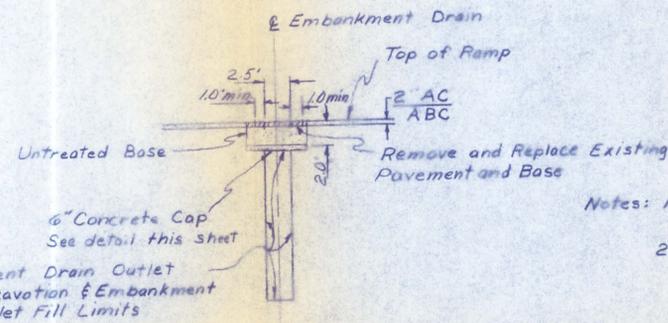
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Designed	WEP	Date	5-79
Drawn	JAM	Approved by	
Traced		Title	
Checked	PJM	Sheet	6 of 7
		Drawing No.	79018-AZ-B



TYPICAL CROSS SECTION
EMBANKMENT DRAIN



PROFILE ON $\&$ OF
EMBANKMENT DRAIN OUTLET



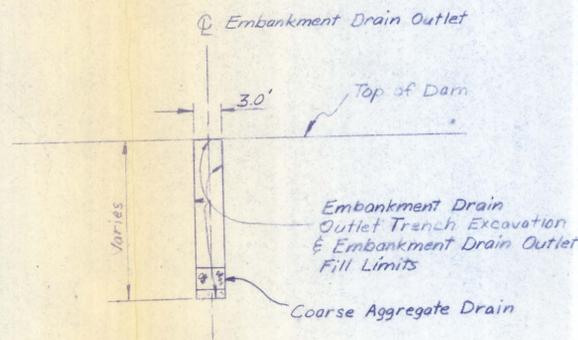
TYPICAL CROSS SECTION
PALO VERDE AND JOHNSON
ROAD RAMP

- Notes: 1. Extend Untreated Base and concrete cap 9' on each side of the edge of the pavement
2. Minimum thickness of aggregate base course material shall equal the thickness of the existing material.

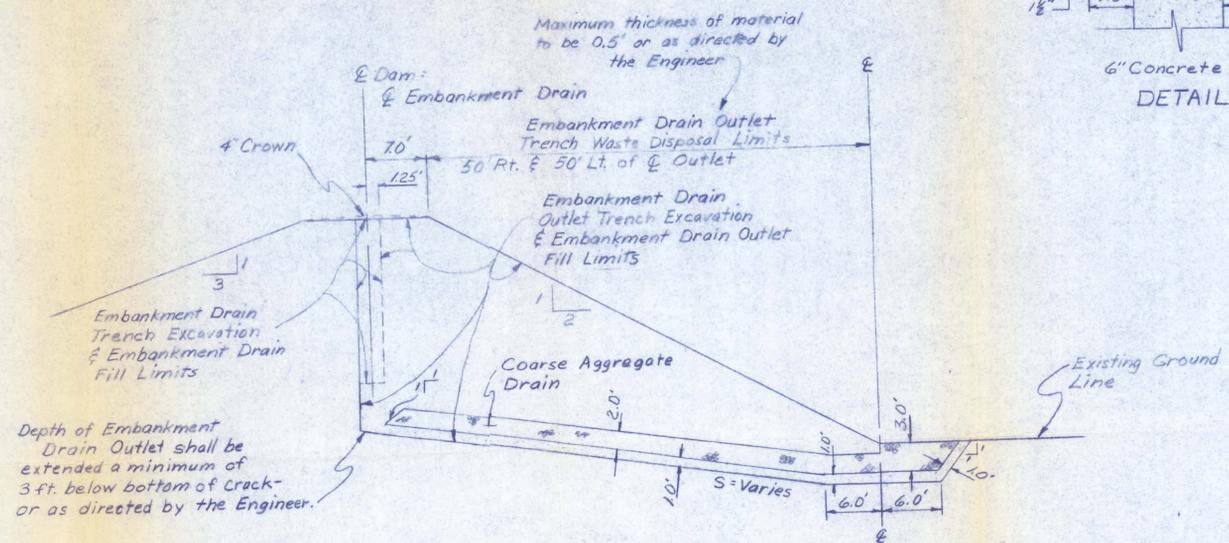
SCHEDULE OF
EMBANKMENT DRAIN OUTLETS

Station	Elevation A	Elevation B
570+00	1084.8±	1084.8±
580+00	1083.2±	1080.6±
590+00	1081.6±	1079.4±
600+00	1080.0±	1076.8±
605+00	1079.4±	1077.4±
610+00	1078.4±	1075.8±
615+00	1078.0±	1075.0±
620+00	1076.8±	1073.6±
625+00	1076.0±	1072.8±
630+00	1075.2±	1071.8±
635+00	1074.4±	1072.6±
640+00	1073.6±	1072.4±
645+00	1072.8±	1072.8±
650+00	1072.0±	1072.0±
660+00	1072.0±	1070.4±
670+00	1072.0±	1068.0±
680+00	1072.0±	1067.2±
690+00	1072.0±	1067.8±
700+00	1072.0±	1066.8±
710+00	1072.0±	1066.4±
720+00	1072.0±	1065.6±
730+00	1072.0±	1065.6±
740+00	1072.0±	1065.0±
750+00	1072.0±	1065.2±
760+00	1072.0±	1062.2±
770+00	1072.0±	1061.8±
780+00	1072.0±	1062.8±
790+00	1072.0±	1062.2±
800+00	1072.0±	1064.6±

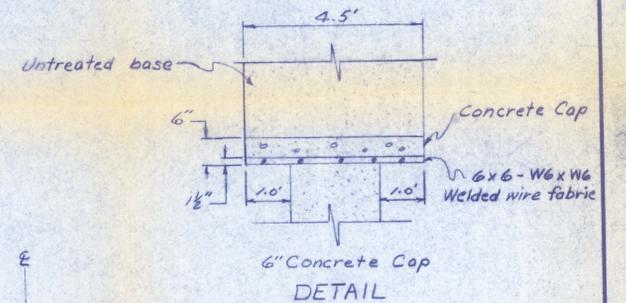
Note: Auxiliary Embankment Drain Outlet Elevations shall be as directed by the Engineer.



TYPICAL CROSS SECTION
EMBANKMENT DRAIN OUTLET



PROFILE ON $\&$ OF AUXILIARY
EMBANKMENT DRAIN OUTLET



6" Concrete Cap
DETAIL

DETAILS OF EMBANKMENT DRAIN &
EMBANKMENT DRAIN OUTLET
BUCKEYE SITE 1 DRAIN
BUCKEYE W.P.P.
MARICOPA COUNTY, ARIZONA

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE			
Designed	WEP	Date	5-79
Drawn	JAM	Approved by	
Traced		Title	
Checked	PJM	Sheet	7
		Drawing No.	79018-AZ-B
		No	7
		of	7