

ENGINEERING DIVISION
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SPECIAL PROVISIONS
FOR

25th Avenue Sanitary Sewer Siphon Below ACDC



Erikson & Salmon, Inc.
consulting civil engineers

A118.546

SPECIAL PROVISIONS
FOR

25th Avenue Sanitary Sewer Siphon Below ACDC

CONTRACT NO. FCD



SUPPLEMENTARY TO MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD
SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION EDITION OF 1979 AND REVISIONS
AND SUPPLEMENTS THERETO.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CONTRACT NO. FCD

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INVITATION FOR BIDS
(Construction Contract)

Project: 25th Avenue Sanitary Sewer
Siphon over ACDC

Ref. Invitation FCD

Date:

Issued by: Flood Control District
Maricopa County

Location: 25th Avenue at the Arizona Canal, Phoenix, Arizona

SEALED BIDS, IN SINGLE COPY FOR THE WORK DESCRIBED HEREIN WILL BE RECEIVED UNTIL LOCAL TIME AT THE PLACE OF THE BID OPENING, IN THE OFFICE OF THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY, 3335 WEST DURANGO STREET, PHOENIX, ARIZONA 85009, AND AT THAT TIME PUBLICLY OPENED.

BID SECURITY IN AN AMOUNT OF NOT LESS THAN FIVE PERCENT (5%) OF THE TOTAL BID PRICE MUST BE SUBMITTED WITH EACH BID. THE BID SECURITY MAY BE IN THE FORM OF A BID BOND, CASHIERS CHECK, POSTAL MONEY ORDER, OR CASH. THE BID SECURITY WILL BE MADE PAYABLE TO THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY AS A GUARANTEE THAT IF THE WORK IS AWARDED TO THE BIDDER, HE WILL WITHIN TEN (10) DAYS FROM THE DATE OF SUCH AWARD, ENTER INTO PROPER CONTRACT AND BOND CONDITIONS FOR THE FAITHFUL PERFORMANCE OF THE WORK. OTHERWISE, SAID AMOUNT WILL BE FORFEITED TO THE FLOOD CONTROL DISTRICT. BID SECURITY WILL BE RETURNED AS PRESCRIBED BY MAG 103.

THE SUCCESSFUL BIDDER SHALL BE REQUIRED TO FURNISH PERFORMANCE AND PAYMENT BONDS IN PENAL SUMS NOT LESS THAN ONE HUNDRED PERCENT (100%) RESPECTIVELY, OF THE ORIGINAL AMOUNT OF THE CONTRACT.

DESCRIPTION OF WORK:

Construction of a three-barrel sanitary sewer siphon with special inlet and outlet structures, inlet, outlet, and connector pipes with manholes and miscellaneous related items.

PRE-BID CONFERENCE:

A pre-bid conference will be held at the Flood Control District offices, 3335 West Durango Street, Phoenix, Arizona, on

THE WORK SHALL COMMENCE WITHIN SEVEN (7) CALENDAR DAYS AND BE COMPLETED WITHIN ONE HUNDRED TWENTY (120) CALENDAR DAYS AFTER RECEIPT OF THE NOTICE TO PROCEED. IN ADDITION, PORTIONS OF THE WORK AS DESCRIBED IN THE CONSTRUCTION SPECIAL PROVISIONS TO THIS CONTRACT MUST BE COMPLETED NO LATER THAN

NOTICE: THE BID SCHEDULE, SPECIAL PROVISIONS, INSTRUCTIONS TO BIDDERS, UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1979 EDITION (MAG) AND REVISIONS AND SUPPLEMENTS THERETO, DRAWINGS LISTED UNDER THE CONTENTS, WILL BE INCORPORATED IN AND BECOME A PART OF THE RESULTANT CONTRACT.

CHERIE ELLIG, CLERK
BOARD OF DIRECTORS
FLOOD CONTROL DISTRICT OF
MARICOPA COUNTY

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
INVITATION FOR BIDS, FCD
INSTRUCTIONS TO BIDDERS

1. Explanation to Bidders. Any explanations desired by the bidder, questions, or items for clarification regarding the meaning or interpretation of the invitation for bids, drawings, specification, etc., may be addressed to the Chief Engineer and General Manager, preferably in writing, prior to the pre-bid conference. Any answers, interpretations or clarifications affecting the cost will be addressed to all bidders in an addendum to the invitation. The receipt of an addendum by the bidder must be acknowledged in the space provided on the bid form or by letter or telegram received before the time set for the bid opening. 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 of the work, the general and local conditions which can affect the work and 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. (See MAG 102.4)
3. Bidder's Qualifications. Before a bid is considered for award, a bidder may be requested by the Chief Engineer and General Manager of the Flood Control District 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.

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

5. Preparation of Bids. 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.

No bid will be considered unless all items in the bid schedule are priced. In case of an error in the extension of price, the unit price shall govern. The quantities listed on the bid schedule on which unit prices are requested are estimates only.

Unless called for, alternate bids will not be considered.

Modifications of bids already submitted will be considered if received at the office designated in the invitation for bids by the time set for opening bids.

6. Submission of Bids. Bids must be sealed, addressed to the Chief Engineer and General Manager, Flood Control District of Maricopa County, 3335 West Durango, Phoenix, Arizona 85009, and marked to identify the bid to the referenced Contract FCD Number. Failure to appropriately identify the bid may result in a premature opening of, or a failure to open, such bid. The name of the bidder shall be on the outside of the envelope. (See MAG 102.9).
7. Withdrawal of Bids or Modifications. Bids may be withdrawn by written request received from the bidder prior to the time set for the opening of bids.
8. Public Opening of Bids. Bids will be publicly opened at the time and place set for the 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.
9. Award of Contract. Award and execution of a contract shall be in accordance with MAG Section 103.
10. Specifications. Specifications referred to herein shall include all revisions and amendments in effect on the date of issuance of the invitation for bids. These instructions, Special Instructions to Bidders, and the herein contained Construction Special Provisions supplement the Uniform Standard Specifications herein referred to by "MAG" section number of paragraph number; however, in case of conflict, these instructions and Special Provisions supersede the Uniform Standard Specifications (MAG).

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
INVITATION FOR BIDS, FCD
SPECIAL INSTRUCTIONS TO BIDDERS

Location of the Work

25th Avenue at the Arizona Canal, Phoenix, Arizona.

Contract Plans, Special Provisions and Contract Documents: Plans, Special Provisions, and forms for proposal, Bidding Schedule, Contract Agreement and Performance Bond may be obtained from the Flood Control District of Maricopa County, 3335 West Durango Street, Phoenix, Arizona, upon payment of by check payable to the FLOOD CONTROL DISTRICT OF MARICOPA COUNTY. This payment will not be refunded. Plans sheets may be purchased separately for a fee of , not refundable.

<u>QUANTITY</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
182	L.F.	8" Sanitary Sewer
312	L.F.	21" Sanitary Sewer
385	L.F.	12" Air Jumper Line
1	Each	San. Sewer Siphon Outlet Str.
1	Each	San. Sewer Siphon Inlet Str.
355	L.F.	8" Ductile Iron Sewer Pipe
355	L.F.	12" Ductile Iron Sewer Pipe
355	L.F.	16" Ductile Iron Sewer Pipe

and such other pertinent items as are necessary for the completion of the project as shown on the plans or as called for in the Special Provisions or in the Maricopa Association of Governments Uniform Standard Specifications for Public Works Construction.

CHERIE ELLIG, CLERK
BOARD OF DIRECTORS
FLOOD CONTROL DISTRICT OF
MARICOPA COUNTY

INVITATION FOR BIDS
NO. FCD

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
(Construction Contract)

BID FORM

Project: 25th Avenue Siphon Below ACDC Invitation FCD
Date:

Location: 25th Avenue at the Arizona Canal, Phoenix, Arizona

To: Chief Engineer and General Manager
Flood Control District of Maricopa County
3335 West Durango
Phoenix, Arizona 85009

The following Proposal is made on behalf of _____
_____ and no others. The total contract
amount of this proposal is (in words) _____
_____ and _____/100 dollars, (in figures)
_____. This amount being the sum total of the extended
amount for each pay item on the Bidding Schedule.

Evidence of authority to submit the Proposal is herewith furnished. The Proposal is in all respects fair and is made without collusion on the part of any person, firm, or corporation mentioned above, and no member or employee of the Flood Control District Board of Directors is personally or financially interested, directly or indirectly in the Proposal, or in any purchase or sale of any materials or supplies for the work in which it relates or in any portion of the profits thereof.

The Undersigned certifies that the approved Plans, Uniform Standard Specifications for Public Works Construction, 1979 Edition (MAG) and revisions and supplements thereto, together with the Special Provisions, forms of Contract and Bond authorized by the Board of Directors and constituting essential parts of this Proposal, have been carefully examined, and also that the site of the work has been personally inspected.

The Undersigned declares that the amount and nature of the work to be done is understood and that at no time will misunderstanding of the Plans, Specifications, Special Provisions, or conditions to be overcome, be plead. On the basis of the Plans, Specifications, Special Provisions, the forms of Contract, and the Bond proposed for use, the Undersigned proposes to furnish all the necessary machinery, equipment, tools, apparatus, and other means of construction, to do all the work and to furnish all the materials in the manner specified and to finish the entire project within the time

PROPOSAL
CONTRACT FCD

Page 1 of 5

hereinafter proposed and to accept, as full compensation therefor, the sum of various products obtained by multiplying each unit price, herein bid for work or materials, by the quantity thereof actually incorporated in the completed project, as determined by the Chief Engineer and General Manager, Flood Control District of Maricopa County.

The Undersigned understands that the quantities mentioned herein are approximate and are subject to increase or decrease and hereby proposes to perform all quantities of work, as either increased or decreased, in accordance with the provisions of the Specifications, at the unit price bid in the Bidding Schedule.

BIDDING SCHEDULE

Project: 25th Avenue Siphon Below ACDC

Contract: FCD

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
336-1	23	S.Y.	Surface Replacement, Type "A", Detail 200			
336-1	23	S.Y.	Surface Replacement, Type "B", Detail 200			
336-3	28	S.Y.	Surface Replacement, Special			
336-4	220	S.Y.	Surface Replacement, Channel Lining			
340-1	18	L.F.	Combined Concrete Curb & Gutter, Std. Det. 220, Type "A", H = 6'			
340-2	35	L.F.	Sawcut, Remove, and Replace 6" Extruded Curb			
350-1	1	L.S.	Miscellaneous Removal & Other Work			
401-1	1	L.S.	Traffic Control Devices			

BIDDING SCHEDULE

Project: 25th Avenue Siphon Below ACDC

Contract: FCD

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
615-1	182	L.F.	8" Sanitary Sewer			
615-2	320	L.F.	21" Sanitary Sewer			
615-3	385	L.F.	12" Air Jumper Line			
625-1	2	Each	Sanitary Sewer Manhole, Std. Det. 420			
625-2	1	Each	Sanitary Sewer Manhole w/Drop Connection, Std. Det. 420			
625-3	1	Each	Reconstruct Existing Manhole			
625-4	1	Each	Sanitary Sewer Siphon Outlet Structure			
625-5	1	Each	Sanitary Sewer Siphon Inlet Structure			

BIDDING SCHEDULE

Project: 25th Avenue Siphon Below ACDC

Contract: FCD

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
625-6	4	Each	Sanitary Sewer Pipe Plugs, Std. Det. 427			
625-7	3	Each	Fill Abandoned Manhole and Plug Pipe			
750-1	355	L.F.	8" Ductile Iron Sanitary Sewer Pipe			
750-2	355	L.F.	12" Ductile Iron Sanitary Sewer Pipe			
750-3	355	L.F.	16" Ductile Iron Sanitary Sewer Pipe			
775-1	342	L.F.	Wall, 7' High			

The Undersigned further proposes to execute the Contract Agreement and furnish satisfactory Bonds within ten (10) days from the date of award, time being of the essence. The Undersigned further proposes to begin the work as specified in the Contract attached hereto, and to complete the work within the time limits as specified in the Special Provisions and maintain at all times a Contract Bond, approved by the Board of Directors, in an amount equal to one hundred percent (100%) of the total bid. This bond shall serve not only to guarantee the completion of the work on the part of the Undersigned, but also to guarantee the excellence of both workmanship and material and the payment of all obligations incurred, said Bond to be in full force and effect until the work is finally accepted and the provisions of the Plans, Specifications, and Special Provisions are fulfilled.

A Proposal guaranty in the amount and character named in the Invitation for Bids is enclosed amounting to not less than five percent (5%) of the total bid, which Proposal guaranty is submitted as a guaranty of the good faith of the Bidder and that the Bidder will enter into written contract, as provided, to do the work, if successful in securing the award thereof; and it is hereby agreed that if at any time other than as provided in the Proposal requirements and conditions the Undersigned should withdraw this Proposal, or if the Proposal is accepted and there should be failure on the part of the Undersigned to execute the Contract and furnish satisfactory Bond as herein provided, the Flood Control District of Maricopa County in either of such events, shall be entitled and is hereby given the right to retain the said Proposal guaranty as liquidated damages.

Date: _____, 19____.

IF BY AN INDIVIDUAL:

(Name) (Address)

IF BY A FIRM OR PARTNERSHIP:

(Firm Name) (Firm Address)

By: _____

*Name and Address of Each Member:

Date: _____, 19____.

IF BY A CORPORATION:

(Corporate Name)

(Corporation Address)

By: _____

**Incorporated under the Laws of _____

Names and Addresses of Officers:

(President)

(Address)

(Secretary)

(Address)

(Treasurer)

(Address)

*The name and post office address of each member of the firm or partnership must be shown.

**The name of the State under which the laws of the Corporation was chartered and names, title, and business address of the President, Secretary, and Treasurer must be shown.

CONSTRUCTION SPECIAL PROVISIONS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FCD CONTRACT NO.

for
25TH AVENUE SANITARY SEWER SIPHON
below
ARIZONA CANAL DIVERSION CHANNEL

PROPOSED WORK: The work includes the construction of a three-barrel sanitary sewer siphon with special inlet and outlet structures, inlet, outlet, and connector pipes, and miscellaneous related items required for completion of the project.

LOCATION OF THE WORK: This project is located in Phoenix, Arizona, on 25th Avenue at the Arizona Canal Diversion Channel, approximately 1/4 mile north of Dunlap Avenue.

SPECIFICATIONS: Except as otherwise required in these specifications, construction of this project shall be in accordance with all applicable Maricopa Association of Governments (MAG) Uniform Standard Specifications and Uniform Standard Details, latest revision, and the latest revision of the City of Phoenix Supplements to the MAG Uniform Standard Specifications and Details, together with Maricopa County Highway Department Supplements to the Uniform Standard Specifications.

PRECEDENCE OF CONTRACT DOCUMENT: The City of Phoenix Supplements to MAG Specifications and Details will govern over the MAG Standard Specifications and Details. In case of a discrepancy or conflict, Project Plans will govern over both the City of Phoenix Supplements and MAG Standard Specifications and Details. These Construction Special Provisions will govern over the City of Phoenix Supplements and MAG Standard Specifications and Details and the Project Plans.

WORK STANDARDS: The Contractor shall comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor Regulations (29 CFR Part 5).

CONTRACT TIME: The Contractor shall start work within seven (7) calendar days and complete all work on the project within one hundred twenty (120) calendar days after the date of Notice to Proceed.

WATER, LIGHT, POWER, HEAT, TELEPHONE: All water for construction purposes, drinking water, lighting, temporary electric power, heat and telephone service shall be arranged for and provided for the requirements of the work by the Contractor at his expense.

PROGRESS SCHEDULE: The Contractor shall submit his proposed work progress schedule to the Chief Engineer and General Manager for approval before starting the work.

MATERIAL SOURCES: Concrete, Aggregate Base and Pipe shall be obtained from commercial sources. The Contractor shall pay all royalties, or any other charges or expenses, incurred in connection with the securing and hauling of the material. The Contractor will be required to furnish the Engineer with a list of his proposed commercial sources prior to use, and shall present certificates stating that the material produced from commercial sources is in accordance with the Uniform Standard Specifications and these Special Provisions.

GENERAL COMMENT: The cost of all work required under this contract as shown on the plans for which there are no specific items shown on the Bidding Schedule, shall be included in the prices bid for related items.

SUBSECTION 101.2 - DEFINITIONS AND TERMS: Change the definition of Budget Project to read as follows: A project financed by funds set aside in the annual budget or otherwise approved by the Board of Directors of the Flood Control District of Maricopa County.

Change the definition of Engineer to read as follows: The Chief Engineer and General Manager of the Flood Control District of Maricopa County acting directly or through his authorized representative.

Change the definition of Owner to read as follows: The City of Phoenix, acting through its legally constituted officials, officers, or employees.

SECTION 102 - ADDENDA & SUBMISSION OF BIDDING SCHEDULE: It shall be the responsibility of prospective bidders to determine, prior to submission of a bid, if any addenda have been issued. This may be accomplished by calling 602-262-1501. Any addendum issued, if not already bound into the Special Provisions, must be included as a part of the Special Provisions, and any quantities on the Bidding Schedule requiring change shall be adjusted by pen and ink to the new figure.

Bids that do not include appropriate addenda and show appropriate changes to the Bidding Schedule shall be invalid.

SECTION 102.5 - PREPARATION OF PROPOSAL: The bidder's Arizona State Contractor's License number and classifications need not be shown on the proposal. The possession of such a license is no longer a bidding requirement; however, the Contractor may be required to provide certification of prior satisfactory completion for similar construction.

SECTION 103.6 - CONTRACTOR'S INSURANCE: Concurrently with the execution of the contract, the Contractor shall furnish a Certificate of Insurance. The types of insurance and the limits of liability shall be as indicated thereon, i.e.

\$1,000,000	bodily injury per person
\$5,000,000	bodily injury each occurrence
\$1,000,000	property damage

SUB-SECTION 105.2 - PLANS AND SHOP DRAWINGS: Sub-Section 105.2 of the MAG Standard Specifications is amended to include the following:

The Contractor shall furnish the Engineer with six (6) copies of shop drawings, pipe layout diagrams, manufacturer's catalog data, and detailed information, in sufficient detail to show complete compliance with all specified requirements, covering, but not limited to, the following items:

- A. Fabricated Pipe and Design Data
- B. Pre-Cast Manhole Risers
- C. Reinforcing Steel
- D. Castings
- E. Field Closures
- F. Concrete Mix Designs
- G. PVC Structure Lining
- H. Caulking Materials *Waterproofing*
- I. ~~Coating Materials~~ *grid*
- J. ~~Grating~~ Design Calculations and Details
- K. All Special Fabricated Fiberglass Items: Stop Logs, Ladders, Slide Gates, etc.
- L. Structural Design Calculations and Details for All Concrete Structures, as Required
- M. Hatch Covers and Appurtenances
- N. Waterstops
- O. Detailed Sequence of Construction for Structures

Prior to fabrication of pipe, the Contractor shall obtain and submit to the Engineer manufacturer's drawings and pertinent data as required above.

Data submitted shall include layout drawings and schedules, with references to the stationing and grades shown on the plans. Invert elevations of the pipeline shall be shown on the layout drawings.

Drawings showing joint dimensions for the straight pipe, specials, and connections shall be furnished.

Drawings of minor or incidental fabricated material and/or equipment may not be required by the Engineer. The Contractor shall furnish the Engineer tabulated lists of such fabrications, showing the names of the manufacturers and catalog numbers, together with samples or general data, as may be required, to permit determination by the Engineer as to their acceptability for incorporation in the work.

Review: The Contractor, at his own expense, shall make such changes in the drawings as may be necessary to conform to the plans and specifications. Prior to return of such drawings, marked "Furnish as Submitted" or "Furnish as Noted", any work which the Contractor may do on the fabrications covered by the same shall be at his own risk, as the City will not be responsible for any expense or delays incurred by the Contractor for changes required to make the same conform to the drawings as finally reviewed.

One copy of submitted drawings will be returned to the Contractor marked "Furnish as Submitted" or "Furnish as Noted". If the submittal is marked "Revise and Resubmit" or "Rejected", a new submittal shall be made in the same manner as the original submittal.

When submitted for the Engineer's review, shop drawings, line layouts, etc. shall bear the Contractor's certification that he has reviewed, checked, and approved the shop drawings, etc. and that they are in conformance with the requirements of the Contract Documents. The Engineer will not review any submittals which do not bear the Contractor's certification.

After the review has been completed, the above drawings, lists, samples, design calculations, and other data shall become a part of the Contract Documents, and the fabrications furnished shall conform to the submittal.

Review of material and layout drawings consists of review for general conformity to plans and specifications, and in no way relieves the Contractor or the supplier from responsibility for the correctness of the drawings.

Deviations or changes from plans or specifications must be called out as such and will require review by the Engineer for approval or rejection.

Construction of this project shall not begin until the shop drawings and line layouts have been reviewed.

Off-Site Inspection: The Contractor shall be responsible for all expenses, including, but not limited to, travel and per diem expenses, required inspections by the Engineer, and/or the cost of inspection and testing by an independent testing laboratory, as required by and at the discretion of the Engineer for any inspection of any pipe manufactured outside a fifty-mile radius from the City Limits of Phoenix, Arizona.

Corrections required on the shop drawings will not constitute a valid reason for delay in the project schedule. The existing contract time provides for 4 weeks for shop drawing preparation and review.

SECTION 104 - SCOPE OF WORK:

104.2.1 General: The cost of all work required under this contract, as shown on the plans, for which there are no specific items shown on the Bidding Schedule, shall be included in the prices bid for related items.

SECTION 105.6 - COOPERATION WITH UTILITIES: An attempt has been made to determine the locations of all underground utilities and drainage pipes, culverts, and structures. The Contractor shall comply with the requirements of the ARS 40-360.21 through 40-360.29 in notification to the interested utility owners prior to the start of construction and shall ascertain the approximate locations of the various underground utilities shown on the plans and as may be brought to his attention. The exact locations of these underground utilities shall be determined by excavations made by the Contractor prior to any trenching operations. It shall be the Contractor's responsibility to cooperate with the pertinent utility companies, so that any obstructing utility installation may be adjusted. Should the Contractor's operations result in damage to any utility, the location of which has been brought to his attention, he shall assume full responsibility for such damage.

Any facility or work which may be performed for the accommodation of any utility shall be paid for by the utility owner. The Contractor shall make all arrangements that may be necessary for the construction, and any financial agreement shall be solely between the Contractor and the utility owner.

The following phone numbers, as indicated, should place the Contractor in contact with proper personnel:

Mountain Bell Telephone Company.....	Ron Catlett.....	842-7750
Salt River Project (Overhead Power).....		236-8888 or 273-2202
Salt River Valley Water Users Association.....	Slavko Jovanovic.....	236-5072
Arizona Public Service.....		271-2014
Location Staking (APS, Mountain Bell, SRP).....		263-1100
City of Phoenix (Water).....	Steve Schebler.....	268-4709
(Sewer).....	Bob Rentfro.....	268-1864
Maricopa County Highway Department.....		262-3631
Flood Control District of Maricopa County.....		262-1501

SECTION 105.8 - CONSTRUCTION STAKES, LINES AND GRADES: The project control line and bench mark elevation are shown on the drawings and will be established by the Engineer. The Contractor shall establish offset stakes and temporary bench marks for referencing the designated construction lines and grades. The Contractor shall provide all rough grade, fine grade, and structural reference lines and shall be responsible for their conformance to the plans and specifications.

The Flood Control District of Maricopa County reserves the right to adjust design grades or the locations of the siphon structures prior to construction if, in the opinion of the Engineer, it should become necessary, without additional cost to the Flood Control District of Maricopa County.

Survey work shall be performed by a qualified and experienced surveyor under the supervision of a licensed land surveyor.

No separate payment will be made for construction surveying, and the cost thereof shall be included in the price bid for related items of work.

SECTION 106 - CONTROL OF MATERIALS:

106.1 Source of Materials and Quality: The Contractor shall guarantee the construction work for one year against faulty materials, faulty workmanship and failure to meet the requirements of the specifications. Said guarantee by the Contractor shall not apply to damage caused by earthquakes or other acts of God, land subsidence, or faulty operations or any abuse of the structures by others.

SECTION 107.2 - PERMITS: The Contractor shall be responsible for obtaining all permits and licenses, paying all charges, fees, taxes, and giving all notices necessary and incidental to the due and lawful execution of the work. Permits for earth moving may be obtained from the Bureau of Air Pollution Control, Maricopa County Department of Health Services, 1845 East Roosevelt, telephone number 258-6381.

SECTION 108.5 - LIMITATION OF OPERATIONS: Should the Contractor elect to perform any work after regular working hours, on weekends, or legal holidays, any charges incurred by the District for inspection of the work, surveys, or tests of materials will be deducted from monies due or to become due to the Contractor.

SUB-SECTION 108.7 - DETERMINATION AND EXTENSION OF CONTRACT TIME and SUB-SECTION 108.9 - FAILURE TO COMPLETE ON TIME: Sub-Sections 108.7 and 108.9 of the MAG Standard Specifications are amended to include the following:

SEQUENCE OF CONSTRUCTION

General: The right to direct the sequence of the work under this contract is a function vested solely in the Engineer. Prior to commencement of the work, the Contractor shall prepare and submit to the Engineer for approval, a written schedule covering the general sequence of the whole work to be performed. The schedule shall be submitted to the Engineer at the Pre-Construction Conference.

The work schedule, when approved, shall not be subject to change without the written consent of the Engineer. Orderly procedure of all work to be performed under this contract shall be the full responsibility of the Contractor. The work schedule must conform to the contract time requirements.

Special Requirements on Segments: The Contractor shall complete all work from Station 2+60 to Station 4+16 during a dry-up period of the Arizona Canal from November to December 1986.

Failure to Complete on Time: Time is of the essence in completing the portion of the project below the Arizona Canal. Therefore, in Sub-Section 108.7, Determination and Extension of Contract Time, and Sub-Section 108.9, Failure to Complete on Time, MAG Table 108 is deleted, and the following paragraphs are substituted:

Station 2+60 to Station 4+16

Failure to completely install the pipe, including one foot of mechanical

compaction above the pipe, in accordance with the plan details, prior to the end of the dry-up period shall result in termination of the contract by the Flood Control District and forfeiture of the performance bond by the Contractor. Any further compaction, backfilling, or lining of the Arizona Canal not completed by the Contractor at the end of the dry-up in this segment will be performed by construction forces of the Salt River Valley Water Users' Association. The cost of this work will be negotiated by the Flood Control District with the Salt River Valley Water Users' Association and paid for with monies due to the Contractor.

SECTION 201 - CLEARING & GRUBBING: The work under this item consists of removal and disposal of all trees, stumps, asphaltic pavement, and structures within the limits of the roadways and easements, as designated on the plans. Materials shall be disposed of off-site.

The Contractor shall note that trees on private property south of the Canal shall not be removed without prior approval of the Owner, and the Contractor will be required to work around trees and protect them from damage during the course of his work.

No separate payment will be made for clearing and grubbing, and the costs thereof shall be included in the price bid for related items of work.

SECTION 206 - STRUCTURE EXCAVATION AND BACKFILL: Structure excavation and backfill shall conform to Section 206 of the MAG Standard Specifications except that no direct payment will be made for this item. The cost of this item shall be included in the contract price bid for related items.

SECTION 225 - WATERING: The work under this item shall be in accordance with Section 225 of the MAG Standard Specifications.

SECTION 336 - PAVEMENT MATCHING AND SURFACING REPLACEMENT: Items 336-1 to 336-3 of this project shall conform in their entirety to Section 336 of the MAG Standard Specifications.

Item 336-4 shall be constructed in accordance with the Salt River Valley Water Users' Association sketch in the License Agreement, which is part of these contract documents, and shall otherwise conform to Section 336 of the MAG Standard Specifications.

SECTION 340 - CONCRETE CURB & GUTTER AND EXTRUDED CURB: Item 340-1 of this project shall conform in its entirety to Section 340 of the MAG Standard Specifications.

Item 340-2 shall consist of sawcutting, removing, and constructing 6" high extruded curb at the locations shown on the project plans or otherwise designated, matching in cross-section, color, and texture the curb removed.

Materials: Portland cement, water, and admixtures shall conform to the requirements of Section 725.

Fine aggregate and coarse aggregate shall conform to the requirements of sub-section 725. Coarse aggregate shall conform to the requirements of Aggregate Base in Table 702 of the MAG Standard Specifications.

The Contractor may add additional fine aggregate to the aggregate for the curb, in order to facilitate finishing. Fine aggregate for this purpose shall be non-plastic and shall conform to the following grading requirements:

Passing No. 4 Sieve	100 per cent
Passing No. 200 Sieve	0-100 per cent

Fine aggregate added for this purpose shall not exceed 25 per cent of the total aggregate for the concrete curb.

Liquid membrane-forming shall conform to the requirements of AASHTO M148, Type I, Class A.

The minimum cement content per cubic yard of concrete shall be 470 pounds.

The Contractor shall be responsible for furnishing, proportioning, and mixing the various ingredients; however, approval of the proposed materials and proportioning and mixing shall be obtained prior to any concrete operations.

There is no maximum temperature limitation on the concrete mixture before placement. The temperature of the mixed concrete immediately before placing shall not exceed 50 degrees F.

Extruded curb shall be constructed either by the use of conventional fixed forms or by slipform curb placing machines. The surface on which the curbs are to be placed shall be cleaned of all loose dirt and debris prior to placing.

The work shall be performed so as not to mar the paved surface. Concrete placed in fixed forms shall be thoroughly consolidated.

If slipform equipment is used to construct extruded curb, such equipment shall be designed specifically for the work. The slipform machine shall be capable of producing curb equal to, or better than, that produced by the use of fixed forms. If the curb produced by such machines is not acceptable, the use of such machines shall be terminated.

Curbs shall present a neat appearance. The finish normally associated with the use of slipform curb placing machines, including the use of moveable forms, will be considered as acceptable for the finishing of concrete extruded curb. Where bituminous material is being applied to the adjacent roadway, curbs shall be protected so that they are not spattered or discolored.

Extruded curb shall be cured by the application of liquid membrane-forming compound. The time at which it is to be applied and the rate of application shall be approved by the Engineer.

Basis of Payment: The accepted quantities of extruded curb will be paid for at the contract unit price per linear foot, complete in place.

SECTION 350 - REMOVAL OF EXISTING IMPROVEMENTS: Item 350-1 of this project, in addition to the items listed in the MAG Standard Specifications, shall include the following:

- K. Curb and gutter, where designated on the plans
- L. Lawn Restoration: Where new sidewalk or bike paths are constructed adjacent to grass-covered yards, the Contractor, after sidewalk construction is complete, shall grade the area behind the sidewalk and reseed with grass identical to the existing grass. Where existing grass cannot be seeded, it shall be restored with sod of the same type grass, in a method approved by the Engineer.
- M. Restoration of Temporary Construction Easements: The Contractor shall leave the easements in as good condition, or better, after work is completed. Special care must be taken to replace any asphalt, trees, sprinklers, lights, walls, fences, etc., which were disturbed as a result of construction. Where grass is located within the easement, such as a lawn, the Contractor shall remove the sod which would be in the path of any construction, store it, keep it moist, and replace it immediately after construction is complete.
- N. Any and all items not specifically set forth as a separate pay item.
- O. Sawcutting and matching existing pavements and curbs, gutters, etc.
- P. Relocating positions of existing signs to be staked by the City Inspector.
- Q. Relocating positions of existing plants within the right-of-way to be staked by the City Inspector.

SECTION 401 - TRAFFIC CONTROL: Add the following to MAG Sub-Section 401.7, Payments:

Payment for Item 401-1, Traffic Control, will be paid for on a lump sum basis for Traffic Control Devices

401.5 General Traffic Regulations:

- A. 25th Avenue shall be considered a major street. The Contractor shall maintain 25th Avenue open to traffic (one lane in each direction) at all times.

Access to local businesses is required at all times.

- B. All traffic and/or traffic control devices on this project shall be provided, maintained, and/or controlled as specified in the City of Phoenix Traffic Barricade Manual, latest revision.
- C. Permission to restrict City streets, sidewalks, and alleys (street closure permits) shall be requested as specified in Section III of the Traffic Barricade Manual.
- D. Unless otherwise provided for, all traffic on this project shall be regulated as specified in Section IV of the Traffic Barricade Manual.

SECTION 615 - SEWER LINE CONSTRUCTION: Items 615-1 and 615-2 of this project shall conform in their entirety to Section 615 of the MAG Standard Specifications.

All vitrified clay pipe shall be extra strength, conforming to MAG Specifications Section 743.

Item 615-3, as detailed on the project plans, may be asbestos-cement, non-pressure sewer pipe, PVC sewer pipe, or fiberglass-reinforced plastic pipe, conforming to the following specifications:

Asbestos-Cement Non-Pressure Sewer Pipe: Asbestos-cement sewer pipe and couplings shall be composed of an intimate mixture of portland cement, asbestos fiber, and silica, and shall be free from organic additives. All pipe and couplings shall be strength Class 4000, manufactured to comply with Type II requirements designated in ASTM C428.

All asbestos-cement sewer pipe, with regard to lengths, diameters of machined and unmachined portions, variations from straightness, wall thicknesses, weights, and all tolerances on these values, shall be in accordance with the manufacturer's specifications. Each pipe supplied shall be machined by the manufacturer so as to facilitate the correct and proper assembly of the pipe with those couplings which he proposes to supply with the pipe.

All pipe supplied shall be 12" nominal diameter, and the average diameter may be less than nominal by not more than 1/4 inch or 1 1/2% of the stated nominal diameter, whichever is greater.

For crushing tests, each pipe shall have sufficient strength, when submitted to the ASTM three edge bearing test, to support not less than 4000 lbs. per lineal foot.

One full length of pipe shall be selected from each 20 lengths, from which shall be cut an unmachined portion one foot long, for testing in crushing by the ASTM three edge bearing method. The one-foot section shall not fail, when tested as below, until the load exceeds the 4000 lbs. per lineal foot with a rate of loading of 2000 lbs. \pm 500 lbs. per minute per lineal foot.

For this test, the two lower bearings shall consist of two straight wooden strips with vertical sides, each strip having its interior top corners rounded to a radius of approximately 1/2 inch. The strips shall be securely fastened to a rigid block, with the interior vertical faces parallel and a distance apart of 1/2 inch. The upper and lower bearings shall extend the full length of the test section. The specimen shall be placed symmetrically between the two bearings, and the center of application of the load shall be so placed that the vertical deformation at the two ends of the specimen will be equal.

Failure of the specimen tested for crushing strength to withstand 75 percent of the load specified shall be cause for rejection of the entire lot represented by the test specimen. When the specimen tested for crush strength withstands over 75 percent but under 100 percent of the load specified, one specimen shall be cut from each of two additional pipes of the same lot as the original specimen. Failure of one of these additional specimens to meet the strength requirements shall be cause for rejection of the entire lot represented by the test specimen.

One coupling of the same manufacture as the pipe shall be furnished with each standard, random, and short length of pipe. It should consist of an asbestos-cement sleeve and two rubber gaskets suitable for use with the particular size and class of pipe with which it is supplied.

Each coupling shipped shall be of equivalent crushing strength as the class of pipe for which it is intended for use.

The manufacturer shall furnish gaskets of proper dimensions and tolerances which, when used with the pipe and couplings furnished, will provide the proper sealing function and conform to ASTM Specification C248, Type II.

Each standard, random, and short length of pipe shall be clearly marked on the outside surface with the trade name, pipe size, class type, and date of manufacture.

Each coupling shall be clearly marked with the trade name, size, and class of pipe for which it is intended.

Trenching, bedding, and backfilling of asbestos-cement pipe shall be in accordance with Section ⁶⁰¹501 of the Standard Specifications.

P.V.C. (Polyvinylchloride) Sewer Pipe: P.V.C. pipe and fitting shall meet the requirements of ASTM Specification D3034 for SDR35.

Pipe shall be suitable for use as a gravity sewer conduit. Provisions must be made for contraction and expansion at each joint with rubber ring. The bell shall consist of an integral wall section with a solid cross-section rubber ring, factory assembled, securely locked in place to prevent displacement during assembly.

The pipe (6" long section) shall be subjected to impact from a free-falling

tup (20-lb. Tup A.) in accordance with ASTM Method of Test D2444. No shattering nor splitting shall be evident when impacted an energy of 220 ft-lbs. (Denting is not a failure.)

All fittings and accessories shall be as manufactured and furnished by the pipe supplier, or approved equal, and have bell and/or spigot configurations compatible with that of the pipe.

One full length of P.V.C. pipe selected from 20 lengths shall be subjected to the following tests, which shall be conducted at 73 degrees F. (+- 3 degrees F.):

a. Pipe Stiffness

Minimum "pipe stiffness" (F y) at 5% deflection shall be 46 psi when tested in accordance with ASTM Method of Test D2411, "External Loading Properties of Plastic Pipe by Parallel-Plate Loading".

b. Joint Tightness

Two sections of pipe shall be assembled in accordance with the manufacturer's recommendation. Joints shall be tested in accordance with ASTM D3212, "Joints for Drain and Sewer Plastic Pipe Using Flexible Elastomeric Seals".

c. Flattening

There shall be no evidence of splitting, cracking, or breaking when the pipe is tested as follows:

Flatten specimen of pipe, six inches long, between parallel plates in a suitable press until the distance between the plates is forty percent of the outside diameter of the pipe. The rate of loading shall be uniform and such that the compression is completed within two to five minutes.

Trenching, bedding, and backfilling of P.V.C. pipe shall be in accordance with Section 501 of the Standard Specifications.

Fiberglass Reinforced Pipe: Fiberglass reinforced pipe shall consist of a reinforced inner core of P.V.C., or other corrosion-resistant material, overwrapped with a continuous filament-wound roving fiberglass bonded with epoxy resin. Fiberglass reinforced pipe shall meet the requirements of ASTM D2992, "Standard Method for Obtaining Hydrostatic Design Basis for Reinforced Thermosetting Resin Pipe and Fittings", and ASTM D2996, "Standard Specification for Filament-Wound Reinforced Thermosetting Resin Pipe", and shall be Type 1, Grade I, Class H pipe, according to the latter specification.

Backfill material in the pipe zone shall be free of large stones or clods more than 1-1/2" in diameter, hand placed and hand tamped to fill all space around

the pipe, with particular attention to the sides of the pipe. Backfill material shall be in accordance with Section 501 of the Standard Specifications.

Excavation for bells shall be provided, so that the pipe is uniformly supported along its length.

If the trench bottom is rocky or hard, as in shale, a 6" layer of selected backfill material shall be provided as a cushion for the pipe. In rock excavation, rock shall be removed so that, in no place, will it be closer than 6" from the pipeline. After excavation, a bed of selected backfill at least 6" deep shall be placed on the bottom of the trench, and the pipe placed on this cushion.

The initial backfill shall be compacted by tamping around the sides of the pipe. Power tamping tools shall not be used within 3 inches of the sides of the pipe nor directly over the top of the pipe.

The placement and the filter material for the condensate pit shall be Type F3, conforming to Section 605 of the MAG Standard Specifications. No tests are required for the condensate pit.

The remainder of the backfill shall be placed and spread in approximately uniform layers in such a manner as to completely fill the trench with a uniformly dense backfill load on the pipe. Rolling equipment shall not be used until a minimum of 30" of backfill material has been placed over the top of the pipe.

Joints may be the single rubber-ring type, assembled in the field by a bar and block, or suitable puller, or may be cast iron dimensioned fittings, both slip and mechanical joints. Caution shall be exercised when using fittings, in that the bolts shall not be tightened to more than 50 ft-lbs. torque. Pipe and fittings shall be assembled with a lubricant as recommended by the manufacturer of the pipe.

One full length of fiberglass reinforced pipe, selected from each 20 lengths, shall be subjected to the following tests, which shall be conducted at 73 degrees F. (+- 3 degrees F.):

a. Quick Burst Test

Randomly-selected samples, tested in accordance with ASTM D1599, shall withstand, without failure, a pressure of 1500 psi in 60-90 seconds.

b. Core Bond Vise Crush Test

Square-cut lengths, 1" +- .25 ", shall be flattened a minimum of 100% of the inside diameter without disbondment. Samples shall be placed in a vise with plates 1" wide and pipe axis parallel to the vise plates and shall be crushed in less than one minute.

c. Drop Impact Test

Square-cut lengths, 8" +/- 0.5", shall withstand, without failure, two impacts at the same location of a falling 30-lb. missile with a 2" radius nose at a level to obtain impacts of 190 ft-lbs.

There shall be no visible evidence of shattering or splitting when the energy is imposed.

d. Epoxy Cure

A surface area of approximately 1" square on each sample shall be manually worked with a cloth saturated with acetone for a period of five minutes. Any evidence of tackiness or solubility of the epoxy will constitute failure.

Regardless of the type of pipe used in Item 615-3 (the air jumper line), it shall be pressure-tested in accordance with the optional testing procedure, as detailed in Section 615 of the MAG Specifications.

All pipe for the air jumper line shall be measured by the linear foot, parallel to the central axis, and shall include lengths of fittings.

The accepted quantities of pipe, measured as provided above, will be paid for at the contract unit price complete-in-place. No measurement or direct payment will be made for furnishing and placing bedding material, condensate pit material, fittings, collars, bands, or couplings joining the various sections of pipe.

SECTION 625 - MANHOLE CONSTRUCTION AND DROP SEWER CONNECTIONS: Items 625-1 and 625-2 shall conform in their entirety to Section 625 of the MAG Standard Specifications.

Construction of Item 625-3 shall be undertaken after the new siphon system has been placed into service and the new 8" service line connection has been installed across 25th Avenue. The existing 8" line, extending to the west from the existing manhole, shall be connected temporarily (either inside or outside the manhole) to the new 8" service line by a Ferrol Loop insert, or any other approved means, before the manhole is filled with aggregate base and the mortar bottom forming is added, in accordance with the plan details. The construction of Item 625-3 shall otherwise conform to Section 625 of the MAG Standard Specifications.

Special Structures: The work described in this section of the Special Provisions involves the general requirements for furnishing and installing the following special structures:

Item 625-4 - Siphon Outlet Structure (Sta. 2+53.44)

Item 625-5 - Siphon Inlet Structure (Sta. 6+04.75)

Where called for on the Plans, the general requirements, as follows, shall ap-

ply to each of the foregoing special structures.

- A. Structural excavation and backfill shall conform to the requirements of MAG 206. Compaction of backfill around and over the structure shall be by hand-operated equipment only. No operator-mounted equipment shall be used. Jetting of pipe within 10 feet of the structure will not be permitted.
- B. The site work for each special structure shall include the temporary support or relocation of utilities which are disturbed as a part of the work for the special structure. Work done to protect existing utilities shall be in conformance with applicable MAG specifications and Details and shall be done to the satisfaction of the affected utility.
- C. The top 6 inches of undisturbed soil below the structure base slabs shall be compacted to 95 percent of maximum density. Structural sub-base material above structure subgrade and below the slabs shall be ABC, conforming to MAG 701, and shall be compacted to 95 percent of maximum density.
- D. Construction materials for the concrete structures shall conform to the requirements as called for on the plans, specified elsewhere in these special provisions, applicable MAG Specifications, and the following:
 1. Concrete: Class A, 3,000 psi
 2. Reinforcing Steel: Grade 40
 3. Structural Steel: MAG Section 515, ASTM A36, and galvanized after fabrication
 4. Concrete Additions: Fly ash may be added to the concrete mix per MAG Specifications and as approved by City of Phoenix Materials Testing Section.
 5. Bearing Pads: Neoprene rubber, ozone-resistant, Shore A hardness to 30 +/- 5
 6. Coal Tar Epoxy: Koppers 300M, or equal, applied in two or more coats for a total dry film thickness of 16 mils, in accordance with manufacturer's application instructions; metal surfaces shall be prepared in accordance with Steel Structures Painting Council (SSPC) Specification SP-10 not more than 12 hours before painting.
 7. Joint Sealant: One component, polyurethane base sealant, as manufactured by Grove International, Inc. (Mono-Caulk 100) or equal.

8. Epoxy Grout: Pourable, nonshrink, 5,500 psi minimum compressive strength at 24 hours, as manufactured by Master Builders, Inc., or equal
9. Bituminous Mastic: MAG Section 729.2
10. Concrete Bonding Agent: Epoxy adhesive, as manufactured by Everbond, Dural bond, or equal
11. Waterstops shall be PVC, dumbbell type, 3/8" thickness. Waterstops shall be made continuously with all splicing performed in accordance with the manufacturer's recommendations. Waterstops shall be Grace Servicized/Dura-Joint, or equal, and shall be installed in accordance with the details on the plans.

Locations of waterstops shall be as noted in these special provisions and as noted on the plans for the individual structures affected.

12. Where new concrete is poured against existing concrete surfaces, the existing surface (including concrete bricks and pipe walls) shall be sandblasted to remove all earth and foreign material. The existing surface shall then be coated with a bonding agent, applied in accordance with the manufacturer's recommendations. Bonding agents shall be Epoxy Adhesive Engineering Concessive No. 1 LPL, Hunts Process HB 100 or 151, or equal.
13. Bond breaker for concrete form surfaces shall be white pigmented curing compound, conforming to AASHTO M-148, Type 2.
14. Grout used for the repair of imperfect concrete work, filling of holes left by form bolts or ties, filling of voids around items through the concrete and in setting machinery and anchor bolts shall be five-star, nonmetallic, nonshrink grout, such as POR-ROK, Hallenite Manufacturing Company, Burke Stone, Burke Concrete Accessories, Inc., or equal.
15. Caulking, where indicated on the plans, shall be done with a synthetic rubber sealing compound. The rubber sealing compound shall be a multi-part polyurethane, designed to cure at room temperature, to a firm, highly-resilient rubber. Application shall be in strict accordance with the manufacturer's instructions and by means of a pneumatic caulking tool or other acceptable method.
16. Fillets shall be furnished and installed in each special structure, in accordance with the general flow lines indicated on the plans. Fillets shall be constructed of Class C concrete, in accordance with MAG Section 725, or Course Brick in Mortar.

Filletts shall be hand-shaped and trowel-finished to create a smooth, even flow line which is free of obstructions to the flow.

- E. Precast deck units (roof) shall be fabricated in accordance with the notes and details indicated on the plans. The bottom and all vertical faces of the roof sections, except the outside face, shall be covered with PVC liner plate. Lifting hooks shall be cast into the deck units as indicated on the plans and shall be capable of supporting the entire weight of the roof section. Joints between walls and top sections and between adjacent top sections shall be sealed in accordance with plan details.
- F. Liner plate material for interior faces of concrete structures and roof sections shall conform to Section 741 of MAG and shall be installed on surfaces indicated on the drawings. All PVC liner plate shall be white in color. Installation shall conform to Section 741 of MAG, where applicable, and to manufacturer's recommendations. The Contractor shall have a technical representative of the PVC liner manufacturer present during initial placement of the liner to ensure that proper application procedures and materials are followed. Section 741 shall be amended to include the following paragraphs:

741.4 Application to Cast-in-Place Concrete Structures: Special Requirements

741.4.1 Liner plate sheets shall be closely fitted and properly secured to the inner forms. Sheets shall be cut to fit curved and warped surfaces, using a minimum number of separate pieces. If liner plate joints are to be Type C-3 joints, as described below, the adjacent sheets shall be butted with not more than 1/8" opening between the sheets. A welding strip shall be fusion-welded on the backs of butt joints to prevent wet concrete from flowing around the edges.

Unless otherwise indicated on the plans, liner plate shall be returned 4" at the surfaces of contact between the concrete structure and items not of concrete. The same procedure shall be followed at joints where the type of protective lining is changed or the new work is built to join existing unlined concrete. At each return, the returned liner plate shall be sealed to the adjacent surface in contact with the plastic-lined concrete using Amercoat No. 19Y adhesive, or equal. If the joint space is too wide or the joint surfaces are too rough to allow satisfactory sealing with this adhesive, the joint space shall be filled with 2" of densely-caulked lead wool or other approved caulking material.

741.4.2 Joints in Liner Plate for Cast-in-Place Concrete Structures

Liner plate at joints shall be free of all mortar and other foreign

material and shall be clean and dry before joints are made.

Field joints in the liner plate shall be of the following described types, used as prescribed:

Type C-1: The joint shall be made with a separate 4-inch joint strip and two welding strips. The width of the space between adjacent liner plate sheets shall not exceed 2". The 4" joint strip shall lap over each liner plate a minimum of 1". It may be used at any transverse or longitudinal joint.

Type C-2: The joint shall be made by lapping sheets not less than 1 inch. One welding strip is required. The upstream sheet shall overlap the one downstream.

Type C-3: The joint consists of one welding strip applied to the face of the liner plate sheets butted together, with one welding strip applied on the back of the joint. It will not be permitted if the gap between the sheets exceeds 1/8".

All welding is to be in strict conformance with liner plate manufacturer's specifications.

- G. Where new concrete is poured against existing concrete surfaces, the existing surface (including concrete bricks and pipe walls) shall be sandblasted to remove all earth and foreign material. The existing surface shall then be coated with a bonding agent applied in accordance with the manufacturer's recommendations. Bonding agents shall be Epoxy Adhesive Engineering Conpressive No. 1 LPL, Hunts Process HB 100 or 151, or equal.
- H. Grout fillets shall be furnished and installed in each special structure, in accordance with the general flow lines indicated on the plans. Fillets shall be constructed of Class C concrete, in accordance with MAG Section 725, or Course Brick in Mortar. Fill concrete shall contain an epoxy binder and nonshrink additives containing no metallic particles, as manufactured by Master Builders, Inc., or equal. Fillets shall be hand-shaped and trowel-finished to create a smooth, even flow line which is free of obstructions to the flow.
- I. All open excavations for construction of the structures shall be securely and completely fenced during nonworking hours. The excavations shall be barricaded at all times, in accordance with the Maricopa County Highway Department Barricade Manual.
- J. Shop Drawings: Prior to the manufacture and/or installation of any items in the special structures noted, the Contractor shall submit eleven (11) copies of shop drawings for review. The shop drawings shall consist of setting plans, details, materials of manufacture,

and such other information as may be required to verify that the proposed material or equipment meets the requirements of the project documents. These shop drawing submittals are in addition to any other submittal requirements noted in other parts of the contract documents, and apply to all materials and equipment furnished for each of the special structures previously noted.

- K. Measurement and payment for each special structure shall be on a lump sum basis. The prices bid shall include all necessary excavation, backfill, and compaction to install each structure, concrete reinforcing steel, PVC lining, coatings as specified, grout fillets, and all other miscellaneous items necessary to complete the work on each structure.
- L. The Contractor shall submit his proposed detailed method of construction for each structure for review by the City Engineer one month prior to construction of each structure.

The brick work and mortar for Item 625-6, Sanitary Sewer Pipe Plugs, shall be constructed in accordance with Section 625 of the MAG Standard Specifications.

Construction of Item 625-7, Fill and Abandon Manhole and Plug Pipe, shall be undertaken after the new sanitary sewer siphon and connector pipes have been placed into service and accepted by the Engineer. Prior to installation of any plugs, filling in, removing, or abandoning any manholes, the abandoned sewer lines will be dewatered and aerated by the Contractor as will not cause damage to public property nor constitute any nuisance or menace to the public. The Contractor shall plug all pipes entering and exiting the manhole, remove and salvage the frame and covers, fill and compact all manholes with aggregate base up to the frame and cover base.

The aggregate base used shall comply with Table 702 in the MAG Standard Specifications.

The surface replacement for the manhole to be abandoned in 25th Avenue to the south of the ACDC bridge shall be Type C, 12" thick, as shown in Detail 200 of the MAG Uniform Standard Details.

The surface replacement for the manhole to be abandoned in 25th Avenue to the north of the ACDC bridge shall be Type B, as shown in Detail 200 of the MAG Uniform Standard Details.

The surface replacement for the manhole to be abandoned in the service road north of the Arizona Canal and west of 25th Avenue shall be Type F, as shown in Detail 200 of the MAG Uniform Standard Details.

Removed frame and covers shall become the property of the City of Phoenix, and the Contractor shall load, haul, and stockpile the frame and covers, as directed, at the City of Phoenix Maintenance Yard, 2301 W. Durango Avenue.

Measurement and payment will be on a unit basis for each manhole filled and will include surface replacement, salvaging of frames and covers, delivery to the City, and plugging pipes.

SECTION 750 - IRON WATER PIPE AND FITTINGS: Sanitary sewer line construction for Items 750-1, 750-2, and 750-3 shall conform to Section 615 of the MAG Standard Specifications, the City of Phoenix Supplement, and the project plans, except that the lower 4 feet of the backfill, including the compaction, shall be in accordance with the plans special details. In addition, the upper portion of the backfill, between Sta. 2+60 and Sta. 4+16, shall be compacted and lined with concrete, in accordance with the sketch in the Salt River Valley Water Users' Association license agreement, which is included in these contract documents. All ductile iron pipe shall be minimum Class 54, conforming to Section 750 of the MAG Standard Specifications, and shall be fully lined with the following system:

Materials:

The material shall be a catalyzed coal tar epoxy, supplied by a reputable manufacturer, having a proven history in water and waste service.

All materials shall be delivered to the application plant in the original unopened containers. Handling and storage shall be in accordance with the manufacturer's recommendations and adequate to prevent damage or deterioration.

The material supplier shall supply test results and certification showing that the delivered materials meet the manufacturer's specifications.

Any material found to be non-conforming, damaged, or deteriorated shall be immediately removed from the application plant.

The manufacturer's recommendations and specifications for this material shall be furnished to the Engineer by the Contractor.

Application:

All interior barrel and joint surfaces which will be exposed to the sewer liquids and gases shall be prepared for lining so as to remove all loose foreign materials which would adversely affect the bond of the compound to the pipe surface. Since some oxides present after the manufacture of the ductile iron pipe are tightly adhering to the surface and thus become an integral part of the surface, the intent of this specification is that these tightly-adhering oxides be left on the surface and only loose oxides be sandblasted away. Specifically, surface preparation shall consist of sandblasting to the extent that the entire surface is struck by the blast media. All prepared surfaces shall receive at least one coat of the specified protective compound prior to any deterioration of the prepared surface.

The lining compound shall be applied by a competent firm, with a demonstrated ability for lining ductile iron. The workmen employed by the applicator shall be experienced and competent in the application of pipe lining and shall have been trained in the application and inspection of the lining compound.

All application equipment, including a special high-speed centrifugal airless device, shall be as recommended by the supplier of the lining compound. Suitable spray equipment or brush shall be utilized to coat the joint surfaces and the exterior of the pipe. All equipment used shall be maintained in good working condition. Materials and brushes shall be delivered to the job site for field application of lining sections damaged during installation.

The pipe surface areas to be lined shall be blown off with air to remove all abrasives, dust, or other contaminants. Any grease or oil shall be removed by solvent cleaning. The lining shall not be applied under adverse atmospheric conditions which would cause loss of integrity of the applied coating and, in no event, when the ambient temperature is less than 40 degrees F.

Lining Thickness:

The lining compound shall be thoroughly mixed, in accordance with the manufacturer's instructions. After blasting and cleaning, the lining compound shall be applied to all barrel surface areas which will be exposed to sewer liquids and gases. The lining compound shall be applied to the barrel of the pipe, utilizing a suitable application device so as to obtain a continuous and relatively-uniform and smooth integral lining in two or more coats. The first coat shall consist of (20 mils wet) 16 mils minimum dry film thickness, and the finish coat(s) shall be applied to yield a total minimum dry film thickness of 40 mils for the complete system. The material supplier's recoat instructions shall be strictly followed. After coating the barrel surfaces, special care shall be given to assure that all joint surfaces exposed to sewer liquids and gases are given a prime and finish coat resulting in a minimum dry film thickness of 30 mils. Because of the extremely rough profile of ductile iron pipe and to insure adequate protection, the amount of the material required to achieve the desired film thickness shall be calculated, and that amount shall be applied to the surface. When measured with a properly-calibrated magnetic film thickness gauge, the cured coating shall not read less than 36 mils for the barrel surfaces and joint surfaces.

Each day's production shall be marked with the date that the lining system is completed and inspected, using a suitable permanent marker.

Holiday detection on the cured coating shall be performed using a low voltage, wet sponge detector, similar to Tinker and Razor Model M-1 for each pipe section and fitting.

All damaged areas, holidays, and insufficient millage shall be repaired in accordance with the manufacturer's recommendations, so that the repaired area is equal to the undamaged areas in all respects.

Equipment used to handle and transport the lined pipe shall be suitably designed and operated so as not to damage the coating. Should damage occur, the damaged areas shall be repaired so that the repaired area is equal to the undamaged areas in all respects.

Lined surfaces of the pipe shall be permitted as long a drying time as practicable and, in any event, until the finished coating has dried at least 5 days at 70 degrees F. All phases of the lining process and repair procedure shall conform to the manufacturer's recommendations.

Measurement will be made horizontally from the inside wall of the siphon inlet and outlet structures for the various sizes of pipe called for on the plans and in the bidding schedule.

Payment for the various sizes of ductile iron sewer pipe will be made at the unit price bid per linear foot, and shall be full compensation for furnishing and installing new pipe and fittings complete-in-place, as specified, including excavating, backfilling, bedding, compacting, sheeting and bracing testing, and all incidental work not specifically covered in other pay items.

SECTION 775 - BRICK AND CONCRETE BLOCK: Wall construction for Item 775-1 shall conform to Section 775 of the MAG Standard Specifications and the project plans, with the following amendments:

Materials:

Slump Block Masonry Units: Slump block masonry units shall conform to ASTM C 90 for moisture-controlled units, with variation allowed in width and length dimensions. Aggregate used in slump block units per ASTM C 33. Unit moisture content as delivered not to exceed 0.25% of total absorption, and maximum linear shrinkage not to exceed 105 of 1% from saturated to overdry condition. Color of units to be selected by the Engineer.

Concrete: All concrete shall be Class A, 3000 psi, conforming to Section 725 of the MAG Standard Specifications.

Masonry Reinforcing Steel and Wire Mesh: Reinforcing steel, other than fabricated masonry reinforcement, shall be in accordance with Section 727 of the MAG Standard Specifications.

Fabricated Masonry Reinforcement: Fabricated masonry reinforcement shall be standard steel masonry reinforcement, consisting of two deformed longitudinal wires welded to cross or diagonal wires spaced not more than 16 inches apart. Wire gauge shall be not less than No. 9 for longitudinal and No. 12 for cross wires.

Gate: The existing gate frames shall remain on this project. The chain link fencing and barbed wire gate materials shall be removed and replaced with wood link fence, Part No. 20023, as provided by Ocotillo Lumber Sales, Inc. or by an equivalent as approved by the Engineer.

Construction: All masonry units shall be laid up on mortar, as specified hereinbefore. All units shall be laid with full face shall mortar beds. All head (or end) joints shall be filled solidly with mortar for a distance in from the face of the unit or wall not less than the thickness of the longitudinal face shells.

All courses of masonry work shall be kept level and the bonds accurately preserved. When necessary to bring the courses to the required heights, and the regular coursing will not work to same, a slight variation in the thickness of the joint will be allowed. All masonry shall be carried plumb and to the line. Unless otherwise noted, masonry units shall be laid common bond.

Where it is necessary to cut masonry units, such cuttings shall be done with a carborundum wheel and all junctions and joints carefully and accurately fitted.

All joints shall be tooled where exposed except as noted. Non-exposed joints shall be flush.

Reinforcement shall be installed and grouted in where shown on the drawings. Vertical reinforcement shall be grouted in lifts of not more than 4 feet. All vertical reinforcement shall be grouted in lifts of not more than 4 feet. All vertical reinforcement shall be lapped with dowels and other sections of steel sufficiently to develop a bond equal to the full strength of the steel. This shall be 40 bar diameters. Vertical reinforcement shall be carefully placed and the cell completely grouted.

The fabricated steel horizontal masonry reinforcement shall be Durowall wire mesh, as provided by Superlite Builders Supply, Inc., or an approved equal, and installed in the masonry unit walls in accordance with the manufacturer's suggested procedures. The reinforcement shall be lapped at least 6" at the splices and be cut and bent at the corners in the manner recommended by the manufacturer. The reinforcement shall be installed at the first course and at 16" on centers in the masonry wall and as shown on the drawings.

Measurement and Payment: Payment for Item 775-1 will be made at the unit bid per linear foot, measured along the outer periphery of the wall, and shall be full compensation for constructing and installing the wall in place, as specified, including replacing the gate materials, removing approximately 230 linear feet of existing fencing, excavating, backfilling, compacting, and all incidental work not specifically covered in other pay items.

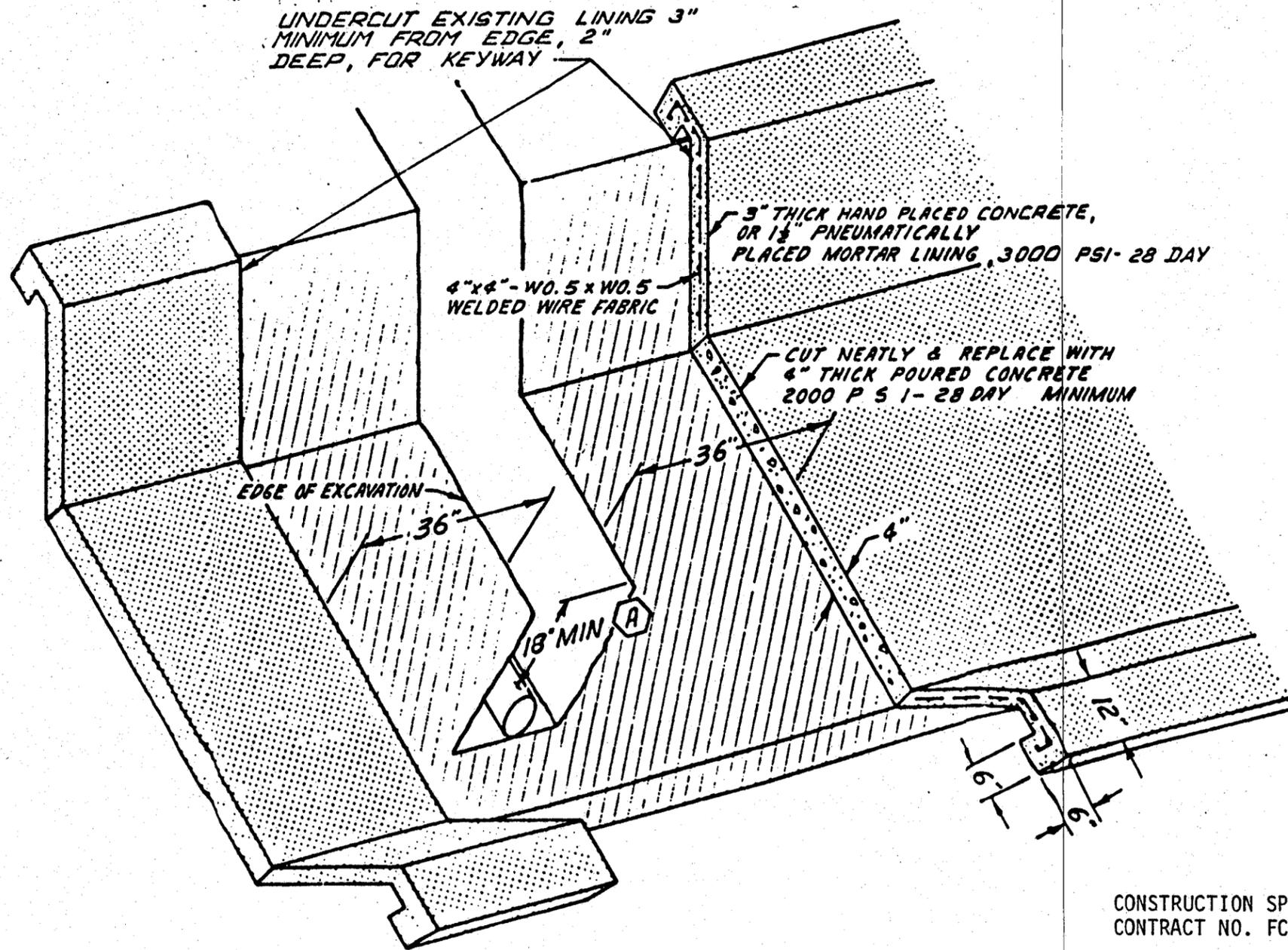
SPECIFICATIONS FOR LINED CANAL UNDERCROSSINGS

1. LINED BANKS TO BE NEATLY CUT AND REMOVED 36" (EACH SIDE) FROM EDGE OF EXCAVATION AND REPLACED WITH A MINIMUM 3" THICK HAND PLACED CONCRETE OR 1-1/2" PNEUMATICALLY PLACED MORTAR LINING, APPLIED OVER 4"x4"-W0.5xW0.5 WELDED WIRE FABRIC.
2. LINED FLOOR TO BE NEATLY CUT AND REMOVED 36" (EACH SIDE) FROM EDGE OF EXCAVATION AND REPLACED WITH 4" THICK 2000 P.S.I. (28 DAY) POURED CONCRETE.
3. A WHITE PIGMENTED CURING COMPOUND SHALL BE APPLIED TO ALL NEWLY PLACED CONCRETE.
4. BACKFILL TO BE NATIVE MATERIAL COMPACTED IN LAYERS TO A MINIMUM OF 90% PROCTOR DENSITY. WHEN NATIVE MATERIAL IS PREDOMINANTLY OF NON-COHESIVE, GRANULAR CONSISTENCY, IT SHALL BE REPLACED WITH A SUITABLE MATERIAL APPROVED BY THE ASSOCIATION INSPECTOR.
5. CANAL ROADWAY SURFACES TO BE RESTORED TO THEIR ORIGINAL CONDITION.
6. NO MANHOLES, RISERS, OR OTHER ABOVE-GROUND FACILITIES TO BE PLACED IN ANY PORTION OF CANAL RIGHT-OF-WAY.
7. TOP OF INSTALLATION IN ANY PORTION OF CANAL RIGHT-OF-WAY TO BE A MINIMUM OF 36 INCHES BELOW GROUND SURFACE.
8. DIRT AND ANY DEBRIS PLACED IN CANAL FOR ANY REASON TO BE COMPLETELY REMOVED UPON COMPLETION OF CROSSING.

(A) MINIMUM OF 18" TO TOP OF PIPE OR TOP OF CONCRETE ENCASEMENT.

NOTE:

PROCTOR DENSITIES TO BE DETERMINED IN ACCORDANCE WITH ASTM D 698.



CONSTRUCTION SPECIAL PROVISIONS
CONTRACT NO. FCD

REVISED	BY	CHECKED	APPROVED	DESCRIPTION
SALT RIVER VALLEY WATER USERS' ASSOCIATION PHOENIX, ARIZONA				
LINED CANAL UNDERCROSSING AND REPLACEMENT DETAILS				
DRAWN	MSV	DESIGNED	BG	APPROVED
SCALE	NONE	CHECKED	JAB	JAV JAV QA
SHEET			6-18-79	B-54-225 YA
OF	100			

CONTRACT

THIS AGREEMENT, made and entered into this _____ day of _____, 19 __, by and between _____

of the City of _____, County of _____, State of _____, party of the first part, hereinafter designated the CONTRACTOR, and the FLOOD CONTROL DISTRICT OF MARICOPA COUNTY, acting by and through its BOARD OF DIRECTORS, a political subdivision of the State of Arizona, a body politic with corporate power, party of the second part, hereinafter designated OWNER.

WITNESSETH: That the said Contractor, for and in consideration of the sum to be paid him by the said Owner, in the manner and at the time hereinafter provided, and of the other covenants and agreements herein contained, and under the penalties expressed in the bonds provided, hereby agrees, for himself, his heirs, executors, administrators, successors, and assigns to as follows:

ARTICLE I-SCOPE OF WORK: The contractor shall furnish any and all labor, materials, equipment, transportation, utilities, services and facilities required to perform all work for the construction of Project No. _____

and to completely and totally construct the same and install the material therein for the Owner, in a good and workmanlike and substantial manner and to the satisfaction of the Owner through its Engineers and under the direction and supervision of the Engineer, or his properly authorized agents and strictly pursuant to and in conformity with the Plans and Specifications prepared by the Engineers for the Owner, and with such modifications of the same and other documents that may be made by the Owner through the Engineer or his properly authorized agents, as provided herein.

ARTICLE II-CONTRACT DOCUMENTS: The Invitation for Bids, Plans, Standard Specifications and Details, Special Provisions, Addenda, if any, and Proposal, as accepted by the BOARD OF DIRECTORS, Performance Bond, Payment Bond, Certificates of Insurance, and Change Orders, if any, are by this reference made a part of this Contract to the same extent as if set forth herein in full.

ARTICLE III-TIME OF COMPLETION: The Contractor further covenants and agrees at his own proper cost and expense, to do all work as aforesaid for the construction of said improvements and to completely construct the same and install the material therein, as called for by this agreement free and clear of all claims, liens, and charges whatsoever, in the manner and under the conditions specified within the time, or times, stated in the proposal pamphlet.

ARTICLE IV-PAYMENTS: For and in consideration of the faithful performance of the work herein embraced as set forth in the Contract Documents, which are a part hereof and in accordance with the directions of the owner, through its Engineer and to his satisfaction, the Owner agrees to pay the said Contractor the amount earned, computed from actual quantities of work performed and accepted or materials furnished at the unit bid price on the Proposal made a part hereof, and to make such payment within forty (40) days after final inspection and acceptance of the work.

IN WITNESS WHEREOF: Four (4) identical counterparts of this contract each of which shall for all purposes be deemed an original thereof, have been duly executed by the parties hereinabove named, on the date and year first above written.

The Contractor agrees that this Contract, as awarded, is for the stated work, and understands that payment for the total work will be made on the basis of the indicated amount(s), as bid in the Proposal.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
PARTY OF SECOND PART

By: _____
Chairman, Board of Directors

Date: _____

RECOMMENDED BY:

ATTEST:

Chief Engineer and General Manager
Flood Control District
of Maricopa County

Clerk of the Board

Date: _____

LEGAL REVIEW

Approved as to form and within the powers and authority granted under the laws of the State of Arizona to the Flood Control District of Maricopa County.

By: _____

Date: _____

STATUTORY PAYMENT BOND PURSUANT TO TITLE 34
CHAPTER 2, ARTICLE 2, OF THE ARIZONA REVISED STATUTES
(Penalty of this bond must be 100% of the Contract amount)

KNOW ALL MEN BY THESE PRESENTS:

That, _____
(hereinafter called the Principal), as Principal, and

_____ a corporation organized and existing under the laws of the State of _____
with its principal office in the City of _____,
(hereinafter called the Surety), as Surety, are held and firmly bound unto the Flood
Control District of Maricopa County, State of Arizona (hereinafter called the Oblige) in the amount of _____
dollars (_____), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the Oblige, dated the _____ day of _____, 19____, for _____

_____ which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall promptly pay all moneys due to all persons supplying labor or materials to him or his subcontractors in the prosecution of the work provided for in said contract, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, of the Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions, of said Title, Chapter, and Article, to the extent as if it were copied at length herein.

The prevailing party or any party which recovers judgment on this bond shall be entitled to such reasonable attorney's fees as may be fixed by the court or a judge thereof.

Witness our hands this _____ day of _____, 19____.

PRINCIPAL SEAL

AGENCY OF RECORD

BY: _____

AGENCY ADDRESS

SURETY SEAL

BY: _____

POWER OF ATTORNEY SEAL

BY: _____

CONTRACT NO. FCD
PAYMENT BOND _____

STATUTORY PERFORMANCE BOND PURSUANT TO TITLE 34
CHAPTER 2, ARTICLE 2, OF THE ARIZONA REVISED STATUTES
(Penalty of this bond must be 100% of the Contract amount)

KNOW ALL MEN BY THESE PRESENTS:

That, _____
(hereinafter called the Principal), as Principal, and

a corporation organized and existing under the laws of the State of _____
with its principal office in the City of _____
(hereinafter called the Surety), as Surety, are held and firmly bound unto the
Flood Control District of Maricopa County, in the County of Maricopa, State of
Arizona, in the amount of _____
dollars (\$ _____), for the payment whereof, the said Principal and
Surety bind themselves, and their heirs, administrators, executors, successors and
assigns, jointly and severally, firmly by these presents.
WHEREAS, the Principal has entered into a certain written contract with the
Flood Control District of Maricopa County, dated the _____ day of _____
_____, 19____, for _____

which contract is hereby referred to and made a part hereof as fully and to the same
extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said
Principal shall faithfully perform and fulfill all the undertakings, covenants,
terms, conditions and agreements of said contract during the original term of
said contract and any extension thereof, with or without notice to the Surety,
and during the life of any guaranty required under the contract, and shall also
perform and fulfill all the undertakings, covenants, terms, conditions, and
agreements of any and all duly authorized modifications of said contract that
may hereafter be made, notice of which modifications to the Surety being hereby
waived; then the above obligation shall be void, otherwise to remain in full
force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of
Title 34, Chapter 2, Article 2, of the Arizona Revised Statutes, and all
liabilities on this bond shall be determined in accordance with the provisions
of said Title, Chapter, and Article, to the extent as if it were copied at length
herein.

The prevailing party in a suit on this bond shall be entitled to such
reasonable attorney's fees as may be fixed by a judge of the court.

Witness our hands this _____ day of _____, 19____.

AGENCY OF RECORD

AGENCY ADDRESS

CONTRACT NO. FCD
PERFORMANCE BOND

PRINCIPAL SEAL

By: _____

SURETY SEAL

BY: _____

POWER OF ATTORNEY SEAL

CERTIFICATE OF INSURANCE

CONTRACT FCD _____

PROJECT TITLE _____

NAME AND ADDRESS OF INSURANCE AGENCY	INSURANCE COMPANIES AFFORDING COVERAGES
	Company Letter A
	Company Letter B
	Company Letter C
NAME AND ADDRESS OF INSURED	Company Letter D
	Company Letter E
	Company Letter F
	Company Letter G

THIS IS TO CERTIFY THAT POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE AND ARE IN FORCE AT THIS TIME.

COMPANY LETTER	TYPE OF INSURANCE	POLICY NUMBER	EXPIRATION DATE	LIMITS OF LIABILITY IN \$1,000	
				MINIMUM	each occurrence
	<input checked="" type="checkbox"/> COMPREHENSIVE GENERAL LIABILITY FORM <input checked="" type="checkbox"/> PREMISES OPERATIONS <input checked="" type="checkbox"/> CONTRACTUAL <input checked="" type="checkbox"/> BROAD FORM PROPERTY DAMAGE <input checked="" type="checkbox"/> EXPLOSION & COLLAPSE <input checked="" type="checkbox"/> PRODUCTS/COMPLETED OPERATIONS HAZARD <input checked="" type="checkbox"/> UNDERGROUND HAZARD <input checked="" type="checkbox"/> INDEPENDENT CONTRACTORS <input checked="" type="checkbox"/> PERSONAL INJURY			BODILY INJURY per person \$1,000 each occurrence \$5,000 PROPERTY DAMAGE \$1,000 OR BODILY INJURY AND PROPERTY DAMAGE Combined \$5,000	
	<input checked="" type="checkbox"/> COMPREHENSIVE AUTO LIABILITY & NON-OWNED			SAME AS ABOVE	
	<input type="checkbox"/> EXCESS LIABILITY			NECESSARY IF UNDERLYING NOT ABOVE MINIMUM	
	<input checked="" type="checkbox"/> WORKERS' COMPENSATION and EMPLOYERS' LIABILITY			STATUTORY	each accident \$100
	<input type="checkbox"/> OTHER				

The Flood Control District of Maricopa County is added as an additional insured as respects work done for the District by the named insured as required by statute, contract, purchase order or otherwise requested. It is agreed that any insurance available to the named insured shall be primary of other sources that may be available. It is further agreed that no policy shall expire, be cancelled or materially changed to effect the coverage available to the District without fifteen days written notice to the District. THIS CERTIFICATE IS NOT VALID UNLESS COUNTERSIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE INSURANCE COMPANY.

NAME AND ADDRESS OF CERTIFICATE HOLDER
 FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
 3335 West Durango Street
 Phoenix, Arizona 85009

DATE ISSUED _____

 AUTHORIZED REPRESENTATIVE

It is further agreed that:

The Contractor hereby agrees to indemnify and save harmless the FLOOD CONTROL DISTRICT OF MARICOPA COUNTY, or any of its departments, agencies, officers or employees, from and against all loss, expense, damage or claim of any nature whatsoever which is caused by any activity, condition or event arising out of the performance or nonperformance of any of the provisions of this agreement. The Flood Control District of Maricopa County shall in all instances be indemnified against all liability, losses and damages of any nature for or on account of any injuries to or death of persons or damages to or destruction of property arising out of or in any way connected with the performance or nonperformance of this agreement, except such injury or damage as shall have been occasioned by the sole negligence of the Flood Control District of Maricopa County. The above cost of damages incurred by the Flood Control District of Maricopa County or any of its departments, agencies, officers or employees shall include in the event of an action, court costs, expenses for litigation and reasonable attorney's fees.

Date _____ Contractor _____