

CONSTRUCTION SPECIFICATIONS

FOR

91ST AVENUE CHANNEL IMPROVEMENTS  
NEW RIVER TO 91ST AVENUE, GREENWAY ROAD TO BELL ROAD

FCD CONTRACT NO. 91-01

CONSTRUCTION SPECIAL PROVISIONS

Prepared By:

DIBBLE AND ASSOCIATES CONSULTING ENGINEERS  
2627 East Thomas Road  
Phoenix, Arizona 85016

Property of  
Flood Control District of MC Library  
Please Return to  
2001 W. Durango  
Phoenix, AZ 85009



(Engineer's Seal)

*Ronald L. Ewing*

Prepared for:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
and

Recommended By: *Edward A. Raleigh*  
Edward A. Raleigh, P.E., Chief  
Engineering Division

Date: 12/10/90

Approved By: *Stanley L. Smith Jr.*  
Stanley L. Smith Jr., P.E.  
Deputy Chief Engineer  
D.E. Sagramoso, P.E.  
Chief Engineer and General Manager

Date: 12/12/90

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

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SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION EDITION OF 1979 AND  
REVISIONS AND SUPPLEMENTS THERETO.

ATTENTION

ALL PROSPECTIVE BIDDERS

A.R.S. Sec. 34-201(A)(3) requires that every bid be accompanied by a certified check, cashier's check or surety bond in the amount of not less than a full five percent (5%) value of the bid.

Bid bonds for less than the full five percent (5%) value of the bid amount as required by ARS 34-201(A)(3) will not be accepted (such as the AIA Form of Bond). Those bids will therefore be considered nonresponsive.

Please take note and submit your bids accordingly.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FCD CONTRACT 91-01

91ST AVENUE CHANNEL IMPROVEMENTS

TABLE OF CONTENTS

	Page
1. Invitation for Bids	1
2. Bid Form (Proposal)	4
3. Bidding Schedule	6
4. Subcontractor Listing	9
5. Surety Bond	10
6. No Collusion Affidavit	11
7. Verification of License	12
8. Minority and Women-Owned Business (MBE/WBE) Program	13
9. MBE/WBE Assurances Affidavit	15
10. MBE/WBE Program MBE/WBE Participation Affidavit, Sample	16
11. MBE/WBE Program MBE/WBE Participation Report, Sample	17
12. Contract	18
13. Statutory Payment Bond	21
14. Statutory Performance Bond	22
15. Certificate of Insurance	23
16. Supplementary General Conditions	SGC-01
	SGC-04
17. Special Provisions	SP-01
	SP-09
18. Drawings: 91st Avenue Channel Improvements 25 sheets	Separate

(Area to left  
reserved for  
Engineer's Seal)



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
INVITATION TO BID

BID OPENING DATE: June 19, 1991

LOCATION:

The channel is to be constructed from New River to 91st Avenue along the Greenway alignment and from Greenway to Bell Road along the 91st Avenue alignment, in the City of Peoria.

PROPOSED WORK:

To construct a trapezoidal reinforced shotcrete channel 1 3/4 miles in length. Other major features will consist of one triple barrel box culvert, four gabion drop structures, and a six (6) foot chain link fence.

BIDS:

SEALED BIDS for the proposed work will be received by the Flood Control District of Maricopa County, 3335 West Durango Street, Phoenix, Arizona 85009 until 3:00 p.m. (Phoenix time) on the above date and then publicly opened and read at 3335 West Durango Street, Phoenix, AZ 85009. No bids will be received after the time specified for bid opening. All bids must be submitted on proposal forms furnished by the Flood Control District and included in the Proposal Pamphlet. The Board of Directors reserves the right to reject any and all bids and to waive any informality in any bid received.

ELIGIBILITY OF CONTRACTOR:

It is the policy of Flood Control District of Maricopa County to endeavor to ensure in every way possible that minority and women-owned business enterprises have every opportunity to participate in providing professional services, purchased goods, and contractual services without being discriminated against on the grounds of race, religion, sex, age, or national origin.

The bidder shall be required to certify that it is appropriately licensed as a Contractor in the State of Arizona for performing the before-mentioned type of work. Verification shall be on the form provided herein.

The bidder may be required to furnish an affidavit as evidence of previous satisfactory performance in the above-mentioned type of work.

CONTRACT TIME:

All work on this Contract is to be completed within one hundred eighty (180) calendar days after date of Notice to Proceed.

MBE/WBE PARTICIPATION:

For this project, a goal of ten (10) percent is desired for Minority/Women-Owned Business Enterprises. Instructions and required forms are included in the Minority and Women-Owned Business Enterprise Program Section.

PRE-BID CONFERENCE:

A pre-bid conference will be held on June 5, 1991 at 11:00 a.m. in the Flood Control District conference room, 3335 West Durango Street, Phoenix, Arizona 85009. It is in the best interest of prospective bidders to attend the Pre-bid Conference.

Questions or items for clarification may be addressed to the Chief, Contracts Branch, in writing, at least ten (10) days prior to bid opening date. Where appropriate, any answers or clarifications affecting the cost may be addressed to all bidders in an addendum. Under no circumstances will verbal interpretations or clarifications be given to individual contractors.

PROJECT PLANS, SPECIAL PROVISIONS AND CONTRACT DOCUMENTS:

Plans and Construction Specifications may be obtained from Flood Control District of Maricopa County, 3335 West Durango Street, Phoenix, Arizona 85009 upon payment of \$19.00 by check, payable to the FLOOD CONTROL DISTRICT of MARICOPA COUNTY. This payment will not be refunded. Mail orders for project documents must include an additional \$7.50 for first class U.S. postage and handling. The total \$26.50 will not be refunded. Regardless of circumstances, we cannot guarantee mail delivery. Each bid must be accompanied by a Bid Bond, cashier's or certified check or postal money Order equal to 5 percent (5%) of the bid, made payable to the FLOOD CONTROL DISTRICT OF MARICOPA COUNTY as a guarantee that if the work is awarded to the bidder, the bidder will within ten (10) days of receipt of the Proposal Acceptance, enter into proper contract and bond condition for the faithful performance of the work, otherwise, said amount may be forfeited to the said BOARD OF DIRECTORS as liquidated damages.

All bids are to be marked in accordance with Section 102.9 of the Uniform Standard Specifications and addressed to the Chief Engineer and General Manager, Flood Control District of Maricopa County, 3335 West Durango Street, Phoenix, Arizona 85009.

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As provided for in the Agenda Information Form authorizing the Invitation to Bid.

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PRINCIPLE ITEMS AND APPROXIMATE QUANTITIES

<u>QUANTITY</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
79,950	CY	Earthwork
48,400	SY	Shotcrete (6")
700	CY	Concr. Box Culvert & Channel Transitions
157	CY	Gabions (3'x3'x6') & (1'x1'x6')
405	SY	Grouted Riprap (1' mattress)
11,900	LF	Chain Link Fence (6')

PROPOSAL

TO THE BOARD OF DIRECTORS  
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
PHOENIX, ARIZONA

Gentlemen:

The following Proposal is made for constructing 91st Avenue Channel Improvements, New River to 91st Avenue, Greenway Road to Bell Road in the County of Maricopa, State of Arizona.

The following Proposal is made on behalf of

---

and no others. 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 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, Supplementary General Conditions, Special Provisions, Forms of Contract, Bonds, and Sureties 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, Construction Specifications, Special Provisions, or conditions to be overcome, be pled. On the basis of the Plans, Construction Specifications, Special Provisions, the Forms of Contract, Bonds, and Sureties 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 hereinafter proposed and to accept, as full compensation therefore, the sum of various products obtained by multiplying each unit price, herein bid for the work or materials, by the quantity thereof actually incorporated in the complete project, as determined by the Engineer or Architect.

The Undersigned understands that the quantities mentioned herein are approximate only 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.

The Undersigned further proposes to perform all extra work that may be required on the basis provided in the Specifications and to give such work personal attention and to secure economical performance.

The Undersigned further proposes to execute the Contract Agreement and furnish satisfactory Bonds and Sureties within ten (10) days of receipt of Notice of Proposal acceptance, **TIME BEING OF THE ESSENCE**. The Undersigned further proposes to begin work as specified in the Contract attached hereto, and to complete the work within 180 calendar days from the effective date specified in the Notice to Proceed, and maintain at all times a Payment and Performance Bond, approved by the Board of Directors, each in an amount equal to one hundred percent of the contract amount. 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 Bonds and Sureties to be in full force and effect until the work is finally accepted and the provisions of the Plans, Specifications, and Special Provisions fulfilled.

A Proposal Guaranty in the amount and character named in the Invitation to Bid is enclosed amounting to not less than five (5) percent of the total bid, which Proposal Guaranty is submitted as a guaranty of the good faith of the Bidder and 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 his Proposal, if the Proposal is accepted and there should be failure on the part of the Undersigned to execute the Contract and furnish satisfactory Bonds and Sureties 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.

The Undersigned acknowledges receipt of the following addenda and has included their provisions in the proposal:

Addendum No. _____	Dated _____

The Undersigned has enclosed the required bid security to this Proposal.

BIDDING SCHEDULE

PROJECT: 91st Avenue Channel Improvements

CONTRACT: FCD 91-01

ITEM NO.	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT COST (IN WRITING) AND /100 DOLLARS	UNIT COST (NUMBERS)	EXTENDED AMOUNT
201	Clearing and Grubbing	1	LS			
215	Earthwork	79,950	CY			
216	Grader Ditch	390	LF			
220-1	Grouted Riprap (1' Mattress)	405	SY			
220-2	1' x 3' Grouted Riprap Cutoff Wall	56	LF			
220-3	2' x 3' Grouted Riprap Cutoff Wall	128	LF			
220-4	Gabions (3' x 3' x 6') & (1' x 1' x 6')	157	CY			
310	Aggregate Base Course	130	TON			
316	Shotcrete (6")	48,400	SY			
405	Survey Monument Det.120-1 Type B	2	EA			
420-1	Chain Link Fence (6')	11,900	LF			
420-2	Chain Link Fence (8')	490	LF			
505-1	Concrete Box Culvert & Channel Transitions	700	CY			

BIDDING SCHEDULE

PROJECT: 91st Avenue Channel Improvements

CONTRACT: FCD 91-01

ITEM NO.	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT COST (IN WRITING) AND /100 DOLLARS	UNIT COST (NUMBERS)	EXTENDED AMOUNT
505-2	"U" Type Headwall (501 - 1&2)	6	EA			
610-1	12" Ductile Iron Pipe	90	LF			
610-2	Extend 8" Steel Pipe	1	LS			
616	Adjust Manhole Det. 422	1	EA			
618-1	36" R.G.R.C.P.	21	LF			
618-2	30" R.G.R.C.P.	46	LF			
618-3	24" R.G.R.C.P.	84	LF			
618-4	21" R.G.R.C.P.	15	LF			
618-5	18" R.G.R.C.P.	86	LF			
618-6	12" R.G.R.C.P.	37	LF			
619-1	30" Flapgate	1	EA			
619-2	21" Flapgate	1	EA			
619-3	12" Flapgate	1	EA			
622	24" Toggle Gate	1	EA			

TOTAL BID AMOUNT: \_\_\_\_\_



SUBCONTRACTOR LISTING

As required in Section 102.6 of the Supplementary General Conditions, the following is a listing of Subcontractors and material suppliers that are to be used in the event the undersigned should enter into contract with the Owner. This is not an exhaustive or inclusive list.

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

SURETY BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, \_\_\_\_\_, as Principal, (hereinafter called the Principal), and the \_\_\_\_\_, a corporation duly organized under the laws of the State of \_\_\_\_\_, as Surety, (hereinafter called the Surety), are held and firmly bound unto the Flood Control District of Maricopa County as Obligee, in the sum of five percent (5%) of the total amount of the bid of Principal, submitted by him to the Flood Control District of Maricopa County, for the work described below, for the payment of which sum, well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, and administrators, successors and assigns, jointly and severally, firmly by these presents, and in conformance with A.R.S. Sec. 34-201(A)(3).

WHEREAS, the said Principal is herewith submitting its proposal for FCD Contract No. 91-01; 91st Avenue Channel Improvements, New River to 91st Avenue, Greenway Road to Bell Road in the County of Maricopa, State of Arizona.

NOW, THEREFORE, if the Flood Control District of Maricopa County shall accept the proposal of the Principal and the Principal shall enter into a contract with the Flood Control District of Maricopa County in accordance with the terms of such proposal and give such Bonds and Certificates of Insurance as specified in the Standard Specifications with good and sufficient Surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter into such contract and give such Bond and Certificates of Insurance, if the Principal shall pay to the Flood Control District of Maricopa County the sum of money set forth above as liquidated damages for failure of the Principal to enter into the contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, A.D., 1991.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Title

Witness:  
  
\_\_\_\_\_

\_\_\_\_\_  
Surety

\_\_\_\_\_  
Title

Witness:  
  
\_\_\_\_\_



VERIFICATION OF LICENSE

Pursuant to A.R.S. Sec. 32-1169, I hereby state that I hold a current contractor's license, duly issued by the office of the Registrar of Contractors for the State of Arizona, said license has not been revoked, that the license number is: \_\_\_\_\_; that my privilege license number (as required by A.R.S. Sec. 42-1305) is: \_\_\_\_\_; and that, if any exemption to the above licensing requirements is claimed;

(1) The basis for the claimed exemption is: \_\_\_\_\_ and;

(2) The names(s) and license number(s) of any general, mechanical, electrical, or plumbing contractor(s) to be employed on the work are:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

IT IS UNDERSTOOD THAT THE FILING OF AN APPLICATION CONTAINING FALSE OR INCORRECT INFORMATION CONCERNING AN APPLICANT'S CONTRACTOR'S LICENSE OR PRIVILEGE LICENSE WITH THE INTENT TO VOID SUCH LICENSING REQUIREMENTS IS UNSWORN FALSIFICATION PUNISHABLE ACCORDING TO A.R.S. SEC. 13-2704.

DATE: \_\_\_\_\_ SIGNATURE OF LICENSEE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISE PROGRAM

A. The following conditions will apply in the calculation of the percentage attainment:

1. All MBE/WBE firms used in attainment of the goal must be certified with the Maricopa County Minority Business Office which is located in the Maricopa County Highway Department building, 3325 West Durango Street, Phoenix. In addition, only those firms certified at least seven calendar days prior to the bid opening will be considered in the attainment of the goal.
2. Prime contractor subcontracts to MBE or WBE:  
The MBE/WBE amount to be applied to the goal will be based on that portion (dollar value) of the contract that the MBE/WBE performs. For example, if a prime contractor subcontracts work amounting to \$100,000 of a contract for which the total project cost is \$1,000,000. the MBE/WBE participation will be credited as 10 percent.
3. Prime Minority Contractor:  
An MBE/WBE prime contractor will be credited with the MBE/WBE participation for that portion of the contract which they themselves perform plus that portions subcontracted to other MBE/WBE firms. For example, if an MBE/WBE prime contractor proposes to perform 50 percent of a project quoted at \$1,000,000 and subcontracts 25 percent to an MBE firm and 25 percent to a non-MBE/WBE firm, MBE/WBE participation will be credited as 75 Percent, or \$750,000.
4. Minority-Non-Minority Joint Venture:  
A joint venture consisting of MBE/WBE participation and non-MBE/WBE business enterprises, functioning as a prime contractor, will be credited with minority participation on the basis of the percentage of profit accruing to the MBE/WBE firm. For example, if a MBE/WBE and non-MBE/WBE joint venture proposes to perform 50 percent of a \$1,000,000 project and 50 percent of the joint venture profits (\$500,000) are to accrue to the MBE/WBE partner in the joint venture, MBE/WBE participation will be credited at 25 percent or \$250,000.
5. Lower Tier Non-MBE/WBE Participation:  
MBE/WBE subcontractors proposing to further subcontract to non-MBE/WBE contractors shall not have that portion of subcontracting activity considered when determining the percentage of MBE/WBE participation.

6. MBE/WBE Suppliers:

Any MBE/WBE supplier that manufactures or substantially alters the material or product it supplies will have that portion of activity considered when determining the percentage of MBE/WBE participation. Any MBE/WBE Wholesaler, Distributor, or Jobber that does not manufacture or substantially alter the materials or product it sells will be limited to 20 percent of the sale price when determining the percentage of MBE/WBE participation.

B. Required forms:

An affidavit is included as part of this section. The form must be completed within seven calendar days after the Notice of Award of Contract. The low bidder is required to submit a Minority/Women-Owned Business Enterprise Program MBE/WBE Participation Affidavit listing the MBE/WBE participation by MBE/WBE firm and the related dollar value of the MBE/WBE contract.

C. Requests for Pay:

Each Request for Pay must be accompanied by a Maricopa County Minority/Women-Owned Business Enterprise Program MBE/WBE Participation Report. The final pay request shall include a listing of total contract MBE/WBE participation.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
MINORITY/WOMEN-OWNED BUSINESS ENTERPRISE PROGRAM

MBE/WBE PARTICIPATION ASSURANCES  
AFFIDAVIT

The undersigned, fully cognizant of the Flood Control District of Maricopa County MBE/WBE Program requirements and of the goal established, hereby certifies that in the preparation of this bid,

\_\_\_\_\_  
(the entity submitting the bid)

(CHECK ONE)

\_\_\_\_\_ Will meet the established goal for participation by  
Minority/Women-Owned Business Enterprises.

\_\_\_\_\_ Will provide the necessary documentation to Minority Business  
Office to establish that a good faith effort was made.

\_\_\_\_\_ Will not participate in the MBE/WBE Program.

The bidder will specify its MBE/WBE participation on the Intended Participation Affidavit or provide documentation of its good faith efforts not later than 4:00 p.m., the seventh calendar day following the bid opening. The required affidavit shall be obtained by the apparent first and second low bidders from the Minority Business Office, Maricopa County Highway Department Building, 3325 West Durango Street, Phoenix, Arizona 85009, following the opening and reading of bids; a sample affidavit form for reference purposes follows.

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
MINORITY/WOMEN-OWNED BUSINESS ENTERPRISE PROGRAM  
Actual Minority/Women-owned Participation

\_\_\_\_\_  
Name of Prime Contractor

FCD 91-01  
\_\_\_\_\_  
Project Number

\_\_\_\_\_  
Contact Person

\_\_\_\_\_  
Total Amount of Contract

\_\_\_\_\_  
Street No.

\_\_\_\_\_  
City State Zip

<u>Minority/Women-owned Firm</u>	<u>Principal</u>	<u>Address</u>	<u>Type of Work</u>	<u>Subcontract Amount</u>
----------------------------------	------------------	----------------	---------------------	---------------------------

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

The undersigned has entered into a formal agreement with the minority contractors/suppliers listed above in the execution of this contract with the Flood Control District of Maricopa County.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

Copy to: Minority Business Office  
Maricopa County Highway Department  
3325 West Durango Street  
Phoenix, Arizona 85009

FCD Contract 91-01

Page 16 of 24

MARICOPA COUNTY  
MINORITY/WOMEN-OWNED BUSINESS ENTERPRISES PROGRAM

MBE/WBE PARTICIPATION REPORT  
(To be attached with Request for Pay)

Date: \_\_\_\_\_

Contractor: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

Project: 91st Avenue Channel Improvements, New

New to 91st Ave., Greenway to Bell

Contract Number: 91-01

For Pay Period of: \_\_\_\_\_

Subcontractor: \_\_\_\_\_

Person to Contact: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Type of Firm: \_\_\_\_\_

Class of Work: \_\_\_\_\_

Subcontract Amount: \_\_\_\_\_

Amount Earned \_\_\_\_\_

(Commission) This Period: \_\_\_\_\_

Total Earned by This Subcontractor: \_\_\_\_\_

Total MBE/WBE Contract Goal, %: 10

Total Cumulative MBE/WBE

Participation on This Contract, %: \_\_\_\_\_

MBE/WBE subcontract payment made  
during this reporting period (yes or no): \_\_\_\_\_

cc: Minority Business Office  
Maricopa County Highway Building  
3325 West Durango Street  
Phoenix, Arizona 85009

CONTRACT AGREEMENT

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 1991, by and between FLOOD CONTROL DISTRICT OF MARICOPA COUNTY, hereinafter called the OWNER, acting by and through its BOARD OF DIRECTORS, and

\_\_\_\_\_ hereinafter called the CONTRACTOR.

WITNESSTH: That the said CONTRACTOR, for and in the consideration of the sum of \_\_\_\_\_ to be paid to him by the OWNER, in the manner and at the times hereinafter provided, and of the other covenants and agreements herein contained, hereby agrees for himself, heirs, executors, administrators, successors, and assigns as follows:

ARTICLE I - SCOPE OF WORK: The CONTRACTOR shall construct, and complete in a workmanlike and substantial manner and to the satisfaction of the Chief Engineer and General Manager, a project for the Flood Control District of Maricopa County, designated as FCD Contract 91-01; 91st Avenue Channel Improvements, New River to 91st Avenue, Greenway Road to Bell Road, and furnish at his own cost and expense all necessary machinery, equipment, tools, apparatus, materials, and labor to complete the work in the most substantial and workmanlike manner according to the Plans and Construction Specifications on file with the Flood Control District of Maricopa County, 3335 West Durango Street, Phoenix, Arizona, and such modifications of the same and other directions that may be made by the Flood Control District of Maricopa County as provided herein.

ARTICLE II - CONTRACT DOCUMENTS: The Construction Specifications (Invitation to Bid, Plans, Standard Specifications and Details, Supplementary General Conditions, Special Provisions, Addenda, if any, Proposal, Affidavits, Performance Bond, Payment Bond, Certificates of Insurance, and Change Orders, if any,) are by this reference made a part of this Contract and shall have the same effect as though all of the same were fully inserted herein.

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 in accordance with the requirements of A.R.S. Sec. 34-221, as amended. The CONTRACTOR agrees to discharge its obligations and make payments to its subcontractors and suppliers in accordance with A.R.S. Sec. 32-1129.

ARTICLE V - TERMINATION: The OWNER hereby gives notice that pursuant to A.R.S. Sec. 38-511(A) this contract may be cancelled without penalty or further obligation within three years after execution if any person significantly involved in initiation, negotiation, securing, drafting or creating a contract on behalf of the OWNER is, at any time while the contract or any extension of the contract is in effect, an employer agent of any other party to the contract in any capacity or a consultant to any other party of the contract with respect to the subject matter of the contract. Cancellation under this section shall be effective when written notice from the Chief Engineer and General Manager of the OWNER is received by all of the parties to the contract. In addition, the OWNER may recoup any fee for commission paid or due to any person significantly involved in initiation, negotiation, securing, drafting or creating the contract on behalf of the OWNER from any other party to the contract arising as a result of the contract.

ARTICLE VI - NEGOTIATION CLAUSE: Recovery of damages related to expenses incurred by the CONTRACTOR for a delay for which the OWNER is responsible, which is unreasonable under the circumstances and which was not within the contemplation of the parties to the contract, shall be negotiated between the CONTRACTOR and the OWNER. This provision shall be construed so as to give full effect to any provision in the contract which requires notice of delays, provides for arbitration or other procedure for settlement or provides for liquidated damages.

ARTICLE VII - COMPLIANCE WITH LAWS: The CONTRACTOR is required to comply with all Federal, State and local ordinances and regulation. The CONTRACTOR's signature on this contract certifies compliance with the provisions of the I-9 requirements of the Immigration Reform Control Act of 1986 for all personnel that the CONTRACTOR and any subcontractors employ to complete this project. It is understood that the OWNER shall conduct itself in accordance with the provisions of the Maricopa County Procurement Code.

ARTICLE VIII - MBE/WBE PROGRAM: Flood Control District of Maricopa County will endeavor to ensure in every way possible that minority and women-owned business enterprises shall have every opportunity to participate in providing professional services, purchased goods, and contractual services to the Flood Control District of Maricopa County without being discriminated against on the grounds of race, religion, sex, age, or national origin.

ARTICLE IX - ANTI-DISCRIMINATION PROVISION: The CONTRACTOR agrees not to discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, or handicap and further agrees not to engage in any unlawful employment practices. The CONTRACTOR further agrees to insert the foregoing provision in all subcontracts hereunder.

IN WITNESS WHEREOF: Five (5) 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.

\_\_\_\_\_  
PARTY OF THE FIRST PART

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
PARTY OF THE SECOND PART

BY: \_\_\_\_\_  
Printed Name

BY: \_\_\_\_\_  
CHAIRMAN, BOARD OF DIRECTORS

BY: \_\_\_\_\_  
Signature

DATE: \_\_\_\_\_

\_\_\_\_\_  
Title  
DATE: \_\_\_\_\_

\_\_\_\_\_  
Tax Identification Number

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: \_\_\_\_\_  
GENERAL COUNSEL, FLOOD CONTROL  
DISTRICT OF MARICOPA COUNTY

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, in the County of Maricopa, State of Arizona (hereinafter called the Obligee), 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 Flood Control District of Maricopa County, dated the \_\_\_\_ day of \_\_\_\_\_, 1991, for FCD Contract 91-01; 91st Avenue Channel Improvements, New River to 91st Avenue, Greenway Road to Bell Road 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 monies 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 was copied at length herein.

The prevailing party or any party which recovers judgement 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 \_\_\_\_\_, 1991.

\_\_\_\_\_  
PRINCIPAL SEAL

BY: \_\_\_\_\_

\_\_\_\_\_  
AGENCY OF RECORD

\_\_\_\_\_  
SURETY SEAL

BY: \_\_\_\_\_

\_\_\_\_\_  
AGENCY ADDRESS

\_\_\_\_\_  
POWER OF ATTORNEY SEAL

BY: \_\_\_\_\_

BOND NUMBER. \_\_\_\_\_

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 Flood Control District of Maricopa County, dated the \_\_\_\_ day of \_\_\_\_\_, 1991, for FCD Contract 91-01; 91st Avenue Channel Improvements, New River to 91st Avenue, Greenway Road to Bell Road 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 was 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 \_\_\_\_\_, 1991.

\_\_\_\_\_  
AGENCY OF RECORD

\_\_\_\_\_  
AGENCY ADDRESS

\_\_\_\_\_  
BOND NUMBER

\_\_\_\_\_  
POWER OF ATTORNEY

BY: \_\_\_\_\_

\_\_\_\_\_  
PRINCIPAL SEAL

BY: \_\_\_\_\_

\_\_\_\_\_  
SURETY SEAL

BY: \_\_\_\_\_

CERTIFICATE OF INSURANCE

CONTRACT FCD 91-01

PROJECT TITLE 91st Avenue Channel Improvements

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

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	
	COMMERCIAL GENERAL <input checked="" type="checkbox"/> 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  PROPERTY DAMAGE each occurrence	5,000 Combined Single Limit
	COMPREHENSIVE AUTO <input checked="" type="checkbox"/> 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 checked="" type="checkbox"/> OTHER	The Flood Control District of Maricopa County, Maricopa County, and the City of Peoria shall be named as additional insureds.			
	<input type="checkbox"/> OTHER				

Except for Workers' Compensation Insurance, the Flood Control District of Maricopa County is added as an additional insured in respect to liability arising in any manner out of the performance of any contract entered into between the insured and the Flood Control District or liability arising out of any services provided or duty performed by any party as required by statute, law, purchase order, or otherwise required. 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 thirty (30) days written notice to the District. THIS CERTIFICATE IS NOT VALID UNLESS COUNTERSIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE INSURANCE COMPANY.

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, Maricopa County and the City of Peoria 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, Maricopa County, and the City of Peoria 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 negligence of the Flood Control District of Maricopa County, Maricopa County, and the City of Peoria. The above cost of damages incurred by the Flood Control District of Maricopa County, Maricopa County, and the City of Peoria or any of its departments, agencies, officers or employees, or others aforesaid shall include in the event of an action, court costs, expenses for litigation and reasonable attorney's fees.

\_\_\_\_\_  
Firm

\_\_\_\_\_  
Date

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Title

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

91ST AVENUE CHANNEL IMPROVEMENTS  
NEW RIVER TO 91ST AVENUE, GREENWAY ROAD TO BELL ROAD

CONTRACT FCD 91-01

SUPPLEMENTARY GENERAL CONDITIONS

SPECIFICATIONS:

The work embraced herein and as shown on the plans for the construction of this project shall be done in accordance with the Maricopa Association of Governments (MAG) Uniform Standard Specifications for Public Works Construction dated 1979, the MAG Uniform Standard Details for Public Works Construction dated 1979, the Maricopa County Highway Department (MCHD) Supplements to the Uniform Standard Specifications dated August 3, 1981, and the Construction Special Provisions contained herein. The latest published editions, including published revisions thereto of the above described documents shall be included.

Recovery of damages related to expenses incurred by the Contractor for a delay for which the Flood Control District of Maricopa County is responsible, which is unreasonable under the circumstances and which was not within the contemplation of the parties to the contract, shall be negotiated between the Contractor and the Flood Control District of Maricopa County. This provision shall not be construed to void any provisions in the contract which requires notice of delays, provides for arbitration or other procedure for settlement or provides for liquidated damages.

Subsection 101.2 - Definitions and Terms:

1. Change the definition of the phrase "Board of Supervisors" to being the Board of Directors acting under the authority of the laws of the State of Arizona and in their capacity of the Board of Directors of the FCDMC.
2. Change the definition of the phrase "Budget Project" to being a project financed by funds set aside in the annual budget or otherwise approved by the FCDMC Board of Directors.
3. Add to the definition of the phrase "Contract Documents", the phrase "Supplementary General Provisions".
4. Change the definition of the term "Engineer" to being the person appointed by the FCDMC Board of Directors to the office of Chief Engineer and General Manager of the FCDMC acting directly or through his authorized representative, the Chief of the FCDMC Construction and Operations Division.
5. Change the definition for the phrase "Notice of Award" to a letter from the FCDMC advising the Contractor that he is the successful bidder and the FCDMC has accepted his proposal.

6. Change the definition of the term "Owner" to the Flood Control District of Maricopa County, acting through it's legally constituted officials, officers, or employees.

Subsection 102.2 - Contents of Proposal Pamphlet: In case of a discrepancy or conflict the project plans will govern over the MCHD Supplements.

Subsection 102.5 - Preparation of Proposal: It shall be the responsibility of prospective bidders to determine, prior to submission of a bid, if any addenda have been issued by the Flood Control District. This may be accomplished by calling 602-262-1501. Any addendum issued, if not already bound into the Special Provisions, must be included as 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 which do not include appropriate addenda and show appropriate changes to the Bidding Schedule shall be invalid.

The bidder's Arizona State Contractor's License number and classifications shall be shown on the proposal. The Contractor may be required to provide certification of prior satisfactory completion for similar construction and shall include a copy of his license and the renewal certificate with the bid proposal.

Subsection 102.6 - Subcontractors' List: A list of subcontractors proposed to be employed on the project shall be submitted with the bid.

Subsection 103.6 - Contractor's Insurance: Concurrently with the execution of the contract, the Contractor shall furnish a Certificate of Insurance using the included Certificate or one of equal wording, that names the additional insureds as set out in the Certificate. The Certificate shall also name the additional insureds as Certificate Holders. The types of insurance and the limits of liability shall be as indicated on the included form.

Subsection 103.6.1(D) - Contractor's Insurance: Add additional insureds as indicated on the included Certificate of Insurance.

Subsection 104.1.1 - General: In addition, 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.

Subsection 105.6 - Cooperation with Utilities: An attempt has been made to determine the location of all underground utilities and drainage pipes, culverts, and structures; however, it shall be the Contractor's responsibility to cooperate with the pertinent utility companies so that any

obstructing utility installation(s) 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.

The Contractor shall contact Arizona Blue Stake (telephone number 263-1100) a minimum of two (2) working days before beginning any underground work. In addition, Blue Stake notification(s) shall be maintained on a current basis.

The following phone numbers should put the Contractor in contact with the proper personnel:

Flood Control District.....	262-1501
US West Communications.....	831-4647
Salt River Project.....	236-2765
Location Staking (A.P.S., Mtn. Bell, S.R.P.).....	263-1100
Maricopa County Highway Department.....	233-8600

Subsection 105.8 - Construction Stakes, Lines, and Grades: Add the following to MAG:

1. The Engineer will set the project survey control line which the construction contractor will use to set line and grade for all construction. The control line shall consist of (1) alignment staking at an interval appropriate to the project requirements and (2) elevation controls, both of which shall be at frequent enough intervals to maintain a line of sight between staking. All other surveying required for the project shall be the contractor's responsibility. The Engineer will not set any construction stakes.
2. Before any construction work is started, the Engineer shall perform all base surveys and cross sections of existing conditions that may be required as a basis for quantity determination.

Subsection 107.1 - Laws to be Observed: In addition, 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).

Subsection 107.2 - Permits: The Contractor shall be responsible for being aware of and obtaining all permits and licenses, pay all charges, fees, taxes, and give all notices necessary and incidental to the due and lawful prosecution 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, Phoenix, Arizona, telephone number 258-6381.

Subsection 107.5.2 - Compliance with the Arizona Communication Standard: The Owner will provide the Contractor with Material Safety Data Sheets (MSDS) for any products known to exist on the site that are deemed health hazards. The Contractor will provide a copy of Owner-provided MSDS to all subcontractors.

The Contractor will provide the Owner and all subcontractors with MSDS for any products that have or are deemed health hazards that will be brought onto the site or created on the site by either the Contractor or by any subcontractors.

The Contractor will provide the Owner with a statement certifying that all personnel (Contractor and subcontractor) employed by the Contractor or by a subcontractor on the job site have received the required Hazard Communication Standard training.

Subsection 108.4 - Contractor's Construction Schedule: The Contractor shall submit his proposed work progress schedule to the Engineer at the pre-construction conference for approval. No work shall be started until such approval is given.

Subsection 108.5 - Limitations 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.

Subsection 108.9 - Failure to Complete on Time: The actual cost per calendar day incurred by the District for Consultant Administrative and Inspection Services on this project will be added to the daily charges as indicated by TABLE 108, LIQUIDATED DAMAGES, and will be deducted from monies due or to become due to the Contractor for each and every calendar day that work shall remain uncompleted after the time specified for the completion of the work in the proposal, or as adjusted by the Engineer. Nothing contained in this provision shall prohibit the District from deducting from monies due or to become due to the Contractor for any other costs incurred by the District directly attributable to the delay in completing this contract.

Subsection 109.7 - Payment for Bond Issue and Budget Projects: Add the following to MAG.

1. Both progress and final pay estimates will be initially processed by the FCDMC's Construction and Operations Division on Tuesdays only, Tuesdays being the only day the Contractor may submit a pay estimate.

# TECHNICAL SPECIAL PROVISIONS

91ST AVENUE CHANNEL IMPROVEMENTS  
PROJECT NO. 91-01



DIBBLE AND ASSOCIATES  
CONSULTING ENGINEERS  
PHOENIX, ARIZONA

November 29, 1990

TSP - 1

91ST AVENUE CHANNEL IMPROVEMENTS  
PROJECT NO. 91-01

SPECIFICATIONS

SECTION 201 - CLEARING AND GRUBBING:

Clearing and grubbing shall conform to Section 201 of the Uniform Standard Specifications.

Clearing and grubbing shall include the removal and disposal of the existing gunite channel lining.

Subsection 201.6 Measurement, Removal and Disposal of Trees: shall be revised to read as follows:

- (A) Miscellaneous trees, shrubs and bushes located along the channel right-of-way corridor shall be included in the bid price for clearing and grubbing.

Payment for clearing and grubbing shall be made at the lump sum contract price as bid in the proposal.

SECTION 206 - STRUCTURE EXCAVATION AND BACKFILL:

Structure excavation and backfill shall conform to Section 206 of the Uniform Standard Specifications and shall apply to the construction of the concrete box culvert and channel transitions as shown on the plans.

The founding soil for the box culvert shall be scarified to a minimum depth of one (1) foot and compacted to a minimum of 95% of its maximum dry density.

No separate payment will be made for structure excavation or structure backfill and the cost of these items shall be included in the contract prices bid for related items.

SECTION 211 - FILL CONSTRUCTION:

Fill construction for the channel banks shall conform to Section 211 of the Uniform Standard Specifications.

Prior to the placements of fill material, all loose soil, vegetation, any debris, concrete and existing structures within the proposed fill areas shall be completely removed. Depressions and ditches shall be cleaned of all loose or wet soils and widened to accommodate compaction equipment. Sloping surfaces shall be benched to provide a level surface for fill placement. All exposed sub-grade surfaces shall be scarified, brought to the proper moisture content and compacted for a minimum depth of one (1) foot.

The fill shall be compacted in horizontal lifts to subgrade level. The depth of the uncompacted lifts shall not exceed six (6) inches.

Compaction shall be to a minimum of 95% of the maximum density as determined in accordance with ASTM D-2922 and D-3017 within a moisture content range of plus or minus 3% of optimum.

No separate payment will be made for this item. Payment for all work under this section, including placing, watering and compaction of fill, shall be included in the contract prices bid for related items.

#### SECTION 215 - EARTHWORK FOR OPEN CHANNELS:

Earthwork for the channel shall conform to Section 215 of the Uniform Standard Specifications.

The soil under the shotcrete channel and the access road shall be compacted to a minimum of 95% of maximum dry density as determined by the ASTM D-698.

Measurement shall be per cubic yard of material excavated to the configuration and limits of the channel grade lines and dimensions as shown on the plans and as computed by the Engineer.

Payment for earthwork shall be made at the contract unit price per cubic yard of excavation as stipulated in the proposal. Such price shall include stripping, excavation, fill, backfill, compaction, grading, hauling, removal and disposal of excess excavated material and debris.

#### SECTION 216 - GRADER DITCH:

The grader ditch shall conform to the configuration and grade lines as shown on the plans.

Equipment used to construct the grader ditch shall be selected as to not damage the existing block wall adjacent to the ditch.

Payment for the grader ditch shall be made at the contract unit price per linear foot and shall include all equipment, labor and incidentals required to complete this item as outlined on the plans.

#### SECTION 220 - RIPRAP AND GABION CONSTRUCTION:

Grouted riprap construction shall conform to Section 220 of the Uniform Standard Specifications and to the dimensions and locations as indicated on the plans.

Stone for grouted riprap shall be well graded with a  $d_{50}$  of nine inches. Neither breadth or thickness of any single stone shall be less than one third of its length. Rock shall be sound and durable, free from clay or shale seams, cracks or other structural defects and shall have a specific gravity of at least 2.40.

The grout may be delivered to the place of final deposit by any means that will insure uniformity and prevent segregation of the grout. Penetration of the grout shall be a minimum of 3/4 of the depth of the section as shown on the plans. If penetration of grout is not obtained by gravity flow into the interstices, the grout shall be spaded, rodded or vibrated into the interstices to completely fill the voids in the stone blanket. Pressure grouting shall not unseat the stones; and during placing by this method, the grout shall be spaded or rodded into the voids.

Gabion construction shall conform to Section 220 of the Uniform Standard Specifications and to the dimensions and locations as indicated on the plans. Gabions shall be sized either 3' x 3' x 6' or 1' x 3' x 6' as shown on the plans, and shall be connected together to form a continuous, smooth integrated structure.

Wire mesh for the gabions shall be a minimum 11 gauge galvanized wire fabric, selvedge-reinforcing wire shall be #9 gauge minimum, and tie wire shall be #13 gauge minimum. All wire to be galvanized, in accordance with the requirements of either ASTM A-123 or ASTM A-153 as applicable, except that the minimum weight of the zinc coating shall be 0.80 of an ounce per square foot of actual surface and fabricated in such a manner as to be unraveling. The mesh opening shall not exceed three inches by four inches. All gabion dimensions shall be within a tolerance limit of  $\pm 5\%$  of the manufacturer's stated size.

Gabions shall be fabricated in such a manner that the sides, ends, lid and diaphragms can be assembled at the construction site into rectangular units of the specified sizes. Gabions are to be of single unit construction, the base, ends and sides either to be woven into a single unit or one edge of these members connected to the base section of the unit in such a manner that strength and flexibility at the point of connection is at least equal to that of the mesh.

All perimeter edges of gabions are to be securely selvedged or bound so that the joints formed by tying the selvedges have approximately the same strength as the body of the mesh. Any penetrations of the gabions requiring cutting of the wire shall be reinforced by lacing around the penetration.

Ties and connecting wire shall be supplied for securely fastening all edges of the gabions and diaphragms. Gabions shall be provided with cross connecting wires as specified herein.

The gabion bed shall be excavated to the width, line and grade as shown on the plans. The gabions shall be founded on this bed and laid to the lines and dimensions required.

Contractor will not be allowed to run any equipment over empty or filled gabions and will replace any gabions that have any scraped galvanizing at his cost. Wire lacing of every unit shall be individually inspected. Internal diaphragms and adjoining gabions shall be wired together by their vertical edges. Empty gabions stacked on filled gabions shall be laced to the filled gabions at front, side and back. All wiring lacing shall be by looping wire around the mesh on selvedge edges to tightly connect the individual gabion unit to its neighbor along all contacting edges, in order to form a continuous connecting structure. Lacing shall have a double loop every five inches. Lacing wire can be cut to convenient lengths for weaving and tying off at each cell to be laced, however, very short lengths or individual ties or "hog" rings will not be allowed.

Gabions shall be placed to conform with plan details. Special care shall be taken to ensure that the edges of individual gabions are straight and parallel. To achieve a neat, square appearance and adequate alignment and finish, stretching of empty gabion rows may be necessary prior to filling. Final appearance will be subject to the approval of the Engineer. Stone material shall be placed in close contact in the unit so that maximum fill is obtained. The units may be filled by machine with sufficient hand work to accomplish requirements of this specification. The exposed face or faces shall be hand-placed using selected stones to prevent bulging of the gabion cell and to improve appearance.

Gabions shall be filled in twelve inch maximum lifts. Between each lift one connecting wire in each direction shall be tightly tied to opposite faces of each cell. Connecting wires shall be looped around two meshes of the gabion wall. Connecting wires are not required in twelve inch gabions. To avoid local deformations, at no time shall any gabion be filled to a depth exceeding one foot more than the adjoining gabion. Care shall be taken to protect the vertical panels and diaphragms from being bent during filling operations.

The last lift of stone in each cell shall be level with the top of the gabion in order to properly close the lid and provide an even surface for the next course. After a gabion is filled, the top shall be folded shut and wired to the ends, side and diaphragm.

The rock for the gabions shall be sound and durable having a minimum specific gravity of 2.40. Rounded or fractured stones are acceptable. Shale or stones with shale seams are not acceptable.

The stone shall be well graded, varying in size from four to six inches, and neither breadth nor thickness of a single stone shall be less than one-third of its length.

Control of gradation shall be by visual inspection.

No source of rock is designated. It shall be the Contractor's responsibility to negotiate for the material, obtain the right of way and pay all royalties and damages.

The source from which the stone will be obtained shall be selected well in advance of the time when the stone will be required in the work. The acceptability of the stone will be determined by the Engineer. If testing is required, suitable samples of stone shall be taken in the presence of the Engineer at least 25 days in advance of the time when the placing of rip-rap or gabion stone is expected to begin. The approval of some rock fragments from a particular quarry site shall not be construed as constituting the approval of all rock fragments taken from that quarry.

Contractor shall submit shop drawings that sufficiently delineate the field layout of the gabion baskets, particularly detailing the oblique angular connections.

Filter fabric shall be composed of strong rotproof polymeric fibers oriented into a stable network such that the fibers retain their relative positions with respect to each other. The fabric shall be free of any chemical treatment or coating which could reduce permeability, and shall have no flaws or defects which could significantly alter its physical properties. The filter fabric shall meet the following minimum physical properties:

Water Permeability	0.01 cm/sec.
Grab strength wet (ASTM D 1682)	165 lb.
Grab elongation wet (ASTM D 1682)	24%
Mullen burst strength (ASTM D 751)	365 psi

The Contractor shall certify that the fabric meets this specification and shall provide information from the manufacturer showing that it equals or exceeds the above physical properties.

Where filter fabric is required beneath the gabions, it shall be placed in an unstretched condition on the prepared foundation base, free of sharp surfaces and debris. The filter strips shall be loosely laid and shall have a minimum of 24 inches overlay at each joint. Securing pins shall be 12 inches minimum length, with washers. Pins shall be inserted through both strips of overlapped fabric at not greater than 6-foot intervals along a line through the mid-point of the overlap. Additional pins shall be installed where needed to prevent slippage. The fabric shall

be protected during construction from extensive exposure to sunlight. Extensive exposure to sunlight will be defined as exposure of 10 days or longer, or as otherwise recommended by the fabric manufacturer. Any damaged fabric shall be replaced by the Contractor at his own expense. Gabions shall not be dropped on the fabric.

The cost of Filter Fabric shall be considered incidental to gabion work.

#### MEASUREMENT:

Grouted riprap shall be measured per square yard placed to the dimensions as shown on the plans for the one foot mattress.

The 1' x 3' grouted rip-rap cutoff wall shall be measured per linear foot placed at the location as shown on the plans.

The 2' x 3' grouted rip-rap cutoff wall shall be measured per linear foot placed at the locations as shown on the plans.

Gabion protection will be measured by computing the volume, in cubic yards, of the rock filled wire basket gabions utilized.

#### PAYMENT:

Payment for the one foot mattress of grouted rip-rap will be made at the contract price per square yard.

Payment for the 1' x 3' grouted rip-rap cutoff wall shall be made at the contract price per linear foot.

Payment for the 2' x 3' grouted rip-rap cutoff wall shall be made at the contract price per linear foot.

Payment for the gabions shall be made at the contract price per cubic yard.

The price shall be full compensation for the item complete in place, as described and specified herein and on the plans, including any grading and compacting of backfill, trenching, all equipment, labor and incidentals as required.

#### SECTION 310 - AGGREGATE BASE COURSE:

Aggregate base course shall conform to the requirements of Section 310 and Section 702 of the Uniform Standard Specifications. Aggregate base shall be crushed in accordance with Section 702.2.

The Contractor will be required to furnish the Engineer certified weight tickets covering all the aggregate base placed on the project. Final pay quantities will be based upon the scale tickets accepted by the Engineer.

Payment for aggregate base course shall be made at the contract unit price per ton as stipulated in the proposal.

### SECTION 316 - SHOTCRETE:

Shotcrete shall conform to the requirements of Section 525 of the Uniform Standard Specifications, except that only the Wet Process (525.3) shall be allowed. Reinforcing steel sizes and spacing shall be as indicated on the plans.

The minimum compressive strength of the shotcrete shall be  $f_c = 3000$  psi.

Payment for shotcrete shall be made at the contract unit price per square yard of exposed surface, complete in place and shall include reinforcing steel, fine grading and incidentals.

### SECTION 350 - REMOVAL OF EXISTING IMPROVEMENTS:

The work under this section shall consist of removing and disposing of any obstacle to construction whether it is shown on the plans or not, unless it is specifically called out on the plans to be removed or relocated by other agencies, and shall be in accordance with Section 350 of the Uniform Standard Specifications.

The disposal of all waste materials removed under this item shall be the responsibility of the Contractor. The disposal site shall be approved by the Engineer.

Payment for removals will be included in the bid price for clearing and grubbing.

### SECTION 405 - SURVEY MONUMENTS:

Survey monuments shall conform to Section 405 of the Uniform Standard specifications.

Payment for survey monuments shall be at the unit bid price per each monument installed at the locations as shown on the plans.

### SECTION 420 - CHAIN LINK FENCES

Chain link fences shall conform to Section 420 of the Uniform Standard Specifications.

At both ends of the concrete culvert where the 6-foot chain link fence spans the concrete box culvert, a bottom rail shall be installed between posts (spans in excess of 10-feet). The bottom rail shall be securely fastened to the line posts and corner posts as recommended by the manufacturer. The fabric shall be fastened to the bottom rail with tie wires spaced every 24-inches.

The 8-foot chain link fence shall be constructed at the location as shown on the plans and shall conform to the manufacturers specification requirements for fence over 6-feet high. The line posts for the 8-foot chain link fence shall have a minimum 2-3/8-inches O.D. Top rail, corner posts, wire mesh, connections and miscellaneous materials shall meet the requirements as specified for fence over 6-feet high.

Measurement for chain link fence shall be measured on the fence line along the bottom strain wire from center to center of end posts and shall include the widths of gates.

Payment shall be made at the contract unit prices per linear foot of 6-foot chain link fence or 8-foot chain link fence and shall be full compensation for furnishing all labor, materials, sleeves, tools, and equipment, and doing all the work involved in constructing the fence and gates complete in place as specified on the plans. There shall not be a separate payment for furnishing and installing gates, but shall be included in the price bid per linear foot of fence.

#### SECTION 505 - CONCRETE STRUCTURES:

The construction of the concrete box culvert and channel transitions and the "U" type headwalls shall conform to Section 505 of the Uniform Standard Specifications and to the dimensions and configurations as shown on the plans.

Payment for the concrete box culvert and channel transitions shall be made at the contract unit price bid per cubic yard of concrete and shall include the reinforcing steel.

Payment for the "U" type headwalls shall be made at the contract unit price bid per each headwall constructed, and shall include all reinforcing steel, labor, equipment, tools and incidentals required to complete this item.

#### SECTION 610 - WATERLINE CONSTRUCTION:

Relocation of the existing 12-inch waterline and extension of the 8-inch steel blow off pipe shall conform to Section 610 of the Uniform Standard Specifications.

The City of Peoria may inspect the waterline construction and will participate in the final inspection and approval of the relocation.

The City of Peoria will perform the bacteria sampling and testing and oversee all other tests pertaining to the waterline relocation.

Measurement and payment shall be made at the contract unit price per linear foot for 12-inch ductile iron pipe as outlined in Section 610 of the Uniform Standard Specifications with the exception that there shall not be a contingent item for cast iron fittings. Costs per linear foot of pipe shall include all pipe, fittings, adapters, appurtenances, concrete thrust blocks (if required), labor equipment, tools, and incidentals required to complete this item.

Measurement and payment for extension of the 8-inch steel pipe shall be made at the lump sum contract price as bid in the proposal and shall be full compensation for all labor, materials, welded connection, mitering and incidentals.

#### SECTION 616 - ADJUST SEWER MANHOLE

The adjustment of the existing sewer manhole shall conform to Standard Detail 422 of the MAG Uniform Standard Details.

Payment for adjusting manholes shall be made at the contract unit price bid per each manhole adjusted and shall be full compensation for furnishing all labor, equipment, materials, tools and incidentals required to complete this item.

### SECTION 618 - STORM DRAIN CONSTRUCTION WITH CONCRETE PIPE:

The 36-inch, 30-inch, 24-inch, 21-inch, 18-inch and 12-inch rubber gasket reinforced concrete pipe construction shall conform to Section 618 and 725 of the Uniform Standard Specifications. All R.G.R.C.P. shall be Class IV.

Concrete pipe entering the channel shall be mitered to provide a smooth transition in matching the channel side slope. All exposed reinforcing at the miter shall be coated with an epoxy as approved by the Engineer. An alternate to this method may be used upon review and approval by the Engineer.

Payment for the rubber gasket reinforced concrete pipe shall be made at the contract unit price bid per linear foot, for each size of pipe and shall be full compensation for furnishing and installing the pipe as specified and shown on the plans including removal of obstructions, excavation, bedding, backfilling, compacting, testing, joint materials, joining, collars and field closures.

### SECTION 619 - FLAPGATES:

The 30-inch, 21-inch and 12-inch flapgates shall be Armco Medium Duty Flapgates with round openings for heads to 20 feet or equal and shall conform to the details on the plans.

The flapgates shall be installed flush on the wall of the box culvert at the locations as shown on the plans, and to the manufactures specifications and instructions.

Payment for flapgates shall be made at the contract unit price bid per each for 30-inch flapgate, 21-inch flapgate and 12-inch flapgate and shall include all labor, equipment, tools, materials and incidentals required to completed this item.

### SECTION 622 - 24-INCH TOGGLE GATE:

The 24-inch toggle gate shall be a Fullerform 24-Inch Toggle Gate or equal.

Materials used in the 24-inch toggle gate shall meet one or more of the following specifications:

1. Steel shapes and plate - ASTM Specification A-36
2. Galvanized Sheet - Commercial G-90
3. Fasteners - Cow Carbon ASTM A-307, Grade A & B

Payment for the 24-inch toggle gate shall be at the contract unit price bid per each gate installed and shall include all labor, materials, tools, equipment and incidentals required to complete this item.