

CONSTRUCTION SPECIFICATIONS

FOR

UPPER EAST FORK CAVE CREEK CHANNEL LANDSCAPE

FCD CONTRACT NO. 91-03

Prepared By:

James Abell & Associates
Two West Alameda Drive
Tempe, Arizona 85202



Prepared for:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
and

Recommended By:

Edward A. Raleigh
Edward A. Raleigh, P.E., Chief
Chief, Engineering Division

Date: 7/15/92

Approved By:

Stanley L. Smith, Jr.
Stanley L. Smith, Jr., P.E.
Acting Chief Engineer and General Manager

Date: 7-15-92

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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ADDENDUM NO. 1

August 11, 1992

FCD CONTRACT NO. 91-03

To Contract Documents

Title: Upper East Fork Cave Creek Channel Landscape

Owner: Flood Control District of Maricopa County

The above documents are herein modified. The provisions of said documents applicable to these modifications remain unchanged unless specifically indicated otherwise herein. This Addendum No. 1 forms a part of the Contract Documents and modifies them as follows:

VERIFICATION OF LICENSE:

Include attached letter dated August 5, 1992 from the Registrar of Contractors office, stating that the project would require an A General Engineering contractors license.

To the Bidding Schedule:

Remove Pages 6 and 7 of 28 and replace with Pages 6r and 7r of 28. Note specifically Items 440-5, 440-17, and 440-18.

To the Construction Special Provisions

Page CSP 1, General: Add the following:

"G. The Contractor shall lock all cross street perimeter gates at the close of each work day."

Page CSP 3, Subsection 430.2 - Pre-Emergence Weed Control: Revise the entire paragraph as follows:

"Provide pre-emergence control, such as Snapshot or equal, to the entire unpaved site area after preliminary grading is complete. Apply pre-emergence control in accordance with the manufacturer's recommendations. Provide second treatment after plant material is installed."

Page CSP 8, Subsection 440.6.1 Riser Assembly (is added): Revise the entire paragraph as follows:

"Construct riser assembly as diagrammed and indicated on the drawings. Provide shop drawings of riser assembly (to scale) to indicate location of components relative to irrigation enclosure. All piping and fittings shall be Type 'K' Hard Drawn. Contractor is responsible for isolating dissimilar metals between piping, pumps, valves, and other system accessories, etc. with an approved dielectric union fittings. Provide necessary interfaces for proper pump operation.

Page CSP 10, Subsection 440.8 - Payment, BID ITEM 440-5; Add the following:

"Included in this bid item are all 4", 2 1/2", and 1 1/2", schedule 40 PVC, pressurized mains."

Page CSP 10, Subsection 440.8 - Payment, BID ITEM 440-7; Add the following:

"Included in this bid item are all 1", 1 1/4", 1 1/2", and 2", Class 200 PVC, feeders."

Page CSP 11, Subsection 440.8 - Payment; Add the following:

"BID ITEMS 440-17 and 440-18 PVC Sleeves: Install 4" and 6" Schedule 40 PVC sleeves. Exact locations to be determined in the field by the Engineer. Include cost to place under existing structures where indicated on the drawings."

Page CSP 12, Add Subsection 757.3.12 - Pressure Regulating Valve (PRV):

"The pressure regulating valve shall have a bronze body with corrosion-resistant internal materials, size 1 1/2", with external adjustment screw and pressure gauge connection, Honeywell-Braukmann #D06U or equal."

Page CSP 13, Subsection 757.7.1 - Fertilizer Injector: Add the following:

"Fertilizer Injector shall have an adjustable feed ratio of 0 to 1.3 oz. per gallon of water."

Page CSP 14, Subsection 757.7.6 - Booster Pump: Revise the entire paragraph as follows:

"Pump shall provide 120 gpm at 60 psi delivery. This delivery pressure is in conjunction with a minimum main pressure of 60 psi at the irrigation supply tap and will provide a total system pressure of 120 psi."

Page CSP 15, Subsection 801.1 - General: Add the following:

"Electrical service is 120/208V, 3 phase, 4 wire. All electrical components, controllers, and accessories, etc. shall be compatible with voltage served."

To the Construction Drawings

Sheet L1 - Delete keynote No. 5.

Sheet L11 - Riser Assembly Diagram:

Replace "Type 'K' copper pipe and fittings 3-inch diameter" with "3-inch diameter, Type 'K' Hard Drawn pipe and fittings with dielectric union fittings as required."

Sheets L12 through L17 - Watering System Legend:

Change designation of 1 1/2" Drip Supply Line Header to: _____

Change designation of 1" Drip Exhaust Line Header to: _____

Add to the designation noted thus :
"Provide 2 1/2" pipe sleeve."

Sheet L13 - At approximate station 109+20, add note:

"Install 30 LF of 6" schedule 40 pipe sleeve and 30 LF of 4" schedule 40 pipe sleeve under existing concrete drainage apron."

FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY

By: *Stanley L. Smith, Jr.*
Stanley L. Smith, Jr., P.E.
Acting Chief Engineer and General Manager



By: *James Abell*
James Abell



Registrar of Contractors

800 WEST WASHINGTON, 6TH FLOOR
PHOENIX, ARIZONA 85007
(602) 542-1525

TUCSON OFFICE
400 WEST CONGRESS 85701
(602) 628-6345

FIFE SYMINGTON
GOVERNOR
MICHAEL GOLDWATER
DIRECTOR

August 5, 1992
File #OPN310

Leanna Cumberland
Chief, Contracting Branch
Flood Control District of Maricopa County
2801 West Durango
Phoenix, Arizona 85009

RE: Upper East Fork Cave Creek
Channel Landscape

Dear Leanna Cumberland:

It is my opinion that the scope of work in the above referenced project would require an A General Engineering contractors license.

If further information or clarification is required please do not hesitate to contact this office.

Sincerely,

Alan A. Felber
Chief of Licensing

cc: John V. Berghian, P.E., R.A.
Planning and Project Management

AAF/kg

FLOOD CONTROL DISTRICT REQUIRED	
AUG 07 1992	
SEARCHED	INDEXED
SERIALIZED	FILED
1 LC CC JVB	
NR	

BIDDING SCHEDULE

PROJECT: Upper East Fork Cave Creek Channel Landscaping

CONTRACT: FCD 91-03

ITEM NO.	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT COST (IN WRITING) AND /100 DOLLARS	UNIT COST (NUMBERS)	EXTENDED AMOUNT
314	Stabilized Decomposed Granite	940	SY			
430-1	Trees (15 Gal.)	395	EA			
430-2	Shrubs (5 Gal.)	582	EA			
430-3	Groundcovers (1 Gal.)	1,640	EA			
430-4	Pre-Emergent Weed Control	18	AC			
430-5	Plant Establishment/Project Maintenance Period	2	MO	Two Thousand and 00/100 dollars	2,000	4,000.00
440-1	Automatic Controller	1	EA			
440-2	Booster Pump	1	EA			
440-3	Riser Assembly	1	LS			
440-4	Irrigation Station	1	LS			
440-5	Schedule 40 PVC Pressurized Main	12,000	LF			
440-6	2-1/2" Schedule 40 PVC Sleeve	288	LF			
440-7	Class 200 PVC Lateral Feeder	16,340	LF			
440-8	1-1/2" Remote Control Drip Valve Assembly	25	EA			

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ITEM NO.	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT COST (IN WRITING) AND /100 DOLLARS	UNIT COST (NUMBERS)	EXTENDED AMOUNT
440-9	2-1/2" Remote Control Spray Valve Assembly	26	EA			
440-10	4" Manual Gate Valve/Aire Rlf./Vac. Breaker	6	EA			
440-11	4" Manual Gate Valve Assembly	1	EA			
440-12	2" Class 125 Conduit w/Control Wiring	19,800	LF			
440-13	Spray Head	198	EA			
440-14	In-Line Emitter Tube	31,656	LF			
440-15	Drip Line Self Flushing End Valve	50	EA			
440-16	Drip Line Air Relief/Vacuum Breaker	25	EA			
440-17	4" Schedule 40 PVC Sleeve	160	LF			
440-18	6" Schedule 40 PVC Sleeve	220	LF			
801	Electric Power Hookup	1	LS			

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Edward A. Raleigh, P.E., Chief
Chief, Engineering Division

Approved By: Stanley L. Smith, Jr. Date: 7-15-92

Stanley L. Smith, Jr., P.E.
Acting Chief Engineer and General Manager

SUPPLEMENTARY TO MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD
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 A.R.S. 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 91-03

UPPER EAST FORK CAVE CREEK CHANNEL LANDSCAPE

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
INVITATION TO BID

BID OPENING DATE: August 20, 1992

LOCATION:

This project is located east of Cave Creek Road between Beardsley Road and Union Hills Drive in the City of Phoenix, Arizona.

PROPOSED WORK:

The work consists of providing all materials and labor to construct a complete and functioning watering system, irrigation station, booster pump, controller, planting trees, shrubs, ground cover, and other associated items of work for one (1) miles of existing channel.

BIDS:

SEALED BIDS for the proposed work will be received by the Flood Control District of Maricopa County, 2801 West Durango Street, Phoenix, Arizona 85009 until 2:00 p.m. (Phoenix time) on the above date and then publicly opened and read at 2801 West Durango Street, Phoenix, Arizona 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 has the appropriate "A" Contractor's license in the State of Arizona to perform 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 fifty (150) calendar days after the date of Notice to Proceed, with the exception of the planting which must be completed within ninety (90) calendar days from the effective date of the Notice to Proceed.

MBE/WBE PARTICIPATION:

For this contract, a MBE/WBE participation goal of six (6) percent is established for Minority/Women-Owned Business Enterprises. Instructions and required forms are included in the Minority and Women-Owned Business Enterprise Program Contracting Requirements section. The Maricopa County Minority and Women-Owned Business Enterprise Program, effective January 1, 1992, is incorporated by reference.

PRE-BID CONFERENCE:

A pre-bid conference will be held on August 5, 1992 at 8:00 a.m. at the Flood Control District office, 2801 West Durango Street, Phoenix, Arizona 85009. A site visit will be held immediately following the pre-bid conference. 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, Contracting 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. Oral and other interpretations or clarifications to individual contractors, unless specifically addressed in an Addendum, will be without legal effect.

PROJECT PLANS, SPECIAL PROVISIONS AND CONTRACT DOCUMENTS:

Plans and Construction Specifications may be obtained from Flood Control District of Maricopa County, 2801 West Durango Street, Phoenix, Arizona 85009 upon payment of \$21.00 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 \$27.50 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, 2801 West Durango Street, Phoenix, Arizona 85009.

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

PRINCIPLE ITEMS AND APPROXIMATE QUANTITIES

<u>QUANTITY</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
940	SY	Stabilized Decomposed Granite
395	EA	Trees (15 gal)
582	EA	Shrubs (5 gal)
1,640	EA	Groundcover (1 gal)
18	AC	Pre-Emergant Weed Control
1	EA	Automatic Controller
1	EA	Booster Pump
1	EA	Irrigation Riser Assembly
1	EA	Irrigation Station
13,200	LF	4" Sched. 40 PVC Pressure Main
16,340	LF	Class 200 PVC Laterals
25	EA	1 1/2" Remote Control Valves
26	EA	2 1/2" Remote Control Valves
19,800	LF	2" Class 125 Conduit with control wiring
198	EA	Spray Heads
31,656	LF	In-Line Emitter Tubs

PROPOSAL

TO THE BOARD OF DIRECTORS

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
PHOENIX, ARIZONA

Gentlemen:

The following Proposal is made for constructing FCD 91-03; Upper East Fork Cave Creek Channel Landscaping, 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, Supplementary General Conditions, or conditions to be overcome, be pled. On the basis of the Plans, Construction Specifications, Special Provisions, Supplementary General Conditions, 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 150 calendar days from the effective date specified in the Notice to Proceed, with the exception of the planting which must be completed within 90 calendar days from the effective date of 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 its 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, had attached these to the bid package, and has included their provisions in the proposal:

Addendum No. _____	Dated _____

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

BIDDING SCHEDULE

MUST BE LEGIBLY WRITTEN IN INK OR TYPED

PROJECT: Upper East Fork Cave Creek Channel Landscaping

CONTRACT: FCD 91-03

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440-10	4" Manual Gate Valve/Air Rlf./Vac. Breaker	6	EA			
440-11	4" Manual Gate Valve Assembly	1	EA			

IF BY AN INDIVIDUAL:

(NAME - TITLE) (ADDRESS)
DATE _____
(PHONE)

IF BY A FIRM OR PARTNERSHIP:

(FIRM NAME) (FIRM ADDRESS)
BY: _____ DATE _____
(NAME - TITLE) (PHONE)

** Name and Address of Each Member:

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

IF BY A CORPORATION:

(CORPORATE NAME) (CORPORATION ADDRESS)
BY: _____ DATE: _____
(PHONE)

TITLE: _____

* Incorporated under the Laws of _____

Names and Addresses of Officers:

(PRESIDENT) (ADDRESS)

(SECRETARY) (ADDRESS)

(TREASURER) (ADDRESS)

* 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.

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.

(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 contract FCD 91-03; Upper East Fork Cave Creek Channel Landscaping.

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., 1992.

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
CONSTRUCTION CONTRACTING REQUIREMENTS

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 (MBO). The MBO is located in the Maricopa County Highway Department building, 2901 West Durango Street, Phoenix, telephone 506-8656. In addition, only those firms certified at least five (5) 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 those 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, 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 performs a commercially useful function, 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.

7. MBE/WBE Trucking:

Credit for trucking by MBEs or WBEs will be the amount to be paid when the MBE or WBE trucker will perform the trucking with his/her trucks, tractors, and employees or when a MBE or WBE trucking broker has signed agreements with MBE and WBE truckers.

B. Required forms:

Two Affidavits are included as part of this section. The first form, the "MBE/WBE Assurances Affidavit", must be completed and submitted with the bid. FAILURE TO DO SO SHALL BE CAUSE FOR REJECTION OF THE BID.

A SAMPLE of the "Actual MBE/WBE Participation Affidavit", that must be completed and returned by the first and second low bidders by 4:00 p.m. to the Minority Business office on the seventh calendar day after bid opening is provided for information purposes. An original form may be requested from the Minority Business Office. A copy of the sample or the sample form itself may also be used. The Affidavit will list the MBE/WBE participation by MBE/WBE firm name and the related dollar value of the MBE/WBE contract. The information in this Affidavit is binding on the contractor, to the extent that any amounts may be increased and not decreased, and that if any listed MBE/WBE's are unable to enter into a subcontract with contractor, the contractor will provide a written report to the Procurement Officer through the Owner's representative.

C. Good Faith Efforts:

Bids which fail to meet MBE or WBE minimum goals at levels which equal or exceed established goals may be considered nonresponsive unless good faith efforts can be determined. Only MBE and WBE firms certified by Maricopa County five (5) calendar days prior to the bid submittal date, and which will perform a commercially useful function will be counted toward meeting the participation goals. Any portion of the work that a proposed MBE or WBE firm will subcontract to other than another certified firm, regardless of tier, will not be counted toward the applicable goals.

The apparent first and second low bidder who do not fulfill the established MBE and WBE goals must demonstrate, through detailed and comprehensive documentation, that "good faith" efforts have been made to solicit, assist and utilize MBE and WBE firms to meet participation goals.

The County Minority Business Office (MBO) will assist prime contractors in identifying possible qualified and interested MBE and WBE subcontractors to meet designated MBE and WBE goals. A M/WBE directory will be made available which contractors may utilize in identifying MBE and WBE firms. It will be the responsibility of the prime contractors to obtain the MBE and WBE firms necessary to meet the MBE and WBE goals.

FAILURE TO CONTACT THE MBO FOR ASSISTANCE in complying with these goals may result in not having implemented "good faith" efforts. Contact may be in writing, by telephone, or in person. If by phone or in person, name of MBO person spoken to should be obtained and written within the "good faith efforts" documentation submittal. The Minority Business Office is located at 2901 West Durango Street, Phoenix, Arizona 85009. Telephone number is 506-4068.

FAILURE TO IMPLEMENT "GOOD FAITH" efforts in accordance with the Maricopa County Minority Business Enterprise Program to the satisfaction of Maricopa County, may result in the rejection of the bid.

If information submitted by the apparent low bidder or top rank proposer indicates that established MBE and WBE goals have not been met, the bidder or proposer shall be required to provide sufficient documentation to demonstrate that he/she has complied with MBE and WBE requirements or good faith efforts. Good faith efforts will be determined by both quality and intensity of these efforts. Documentation provided to the Minority Business Office (MBO) must include:

1. The date bidder/proposer requested assistance written, in person, or by telephone, from the MBO. The bidder/proposer should request assistance from the MBO office in order for a determination of good faith effort to be made. As Maricopa County M/WBE directories are updated frequently, bidders shall contact the MBO to ensure that they have the most recent edition.
2. Names, addresses and telephone numbers; and dates of notification of Maricopa County certified MBEs and WBEs solicited by direct mail for this project; and dates and methods used for follow up of initial solicitations to determine with certainty whether MBEs or WBEs were interested in subcontracting. (SEE NOTE)
3. Items of work for which bidder/proposer requested sub-bids, proposals or materials to be supplied by MBEs and WBEs; information furnished to interested MBEs and WBEs such as specifications and requirements of the work; plans; and any breakdown of items of work into economically feasible units to facilitate MBE and WBE participation.

4. Names of MBEs and WBEs who submitted bids or proposals for any of the work indicated above and were not accepted by the prime. An explanation of why MBEs or WBEs contacted were not awarded subcontracts. If price was the reason for rejection of the bid, the price bid of rejected MBEs or WBEs and price bid of the selected subcontractor shall be submitted. Since utilization of available MBEs and WBEs is the program objective, price differences will not automatically be considered as cause for rejection of MBE and WBE bids.

5. Documentation of written notices or telephone calls to a reasonable number of M/WBEs soliciting their participation in sufficient time to allow M/WBEs to participate effectively. All M/WBEs listed on the Maricopa County Certification list which provide applicable goods and services for subject procurement/project should be contacted.

NOTE: The above good faith efforts must have been conducted during the bidding period and prior to the bid opening date with substantial time in order to allow for a response from potential M/WBE subcontractors. Original contact by prime contractor just prior to or on the bid date will not be construed as having provided sufficient response time for submission of subcontract bids.

The following efforts can also be utilized in demonstrating "Good Faith" in soliciting M/WBE participation.

1. A description of the efforts made to assist MBEs and WBEs whose bids were rejected to be more competitive in their subcontracting bids. These efforts could include assistance in meeting bonding or insurance requirements.

2. Names and dates of advertisement of each newspaper, trade paper, and minority focus paper in which a request for MBE and WBE participation for this project was placed by the bidder/proposer.

Bidders are encouraged to seek M/WBEs in the same geographical area in which the work is to be performed or goods provided. If the bidder cannot meet the established goals using M/WBEs from the geographical area, the bidder should expand its search to a reasonable wider geographical area.

The MBO will make the final decision as to whether good faith efforts were met based on the information submitted.

D. Appeal Process for Bid Award:

If the Owner is considering award of a contract to a bidder other than the low bidder because of failure to meet MBE and WBE participation goals or good faith efforts, the low bidder will be notified and give an opportunity to protest the decision. This protest will be made in accordance with the Maricopa County Procurement Code, Article 9, MCI-905, which is incorporated by reference.

E. Contract Compliance:

Failure of any bidder, contractor or subcontractor to comply with any of the requirements of the Maricopa County Minority and Women-Owned Business Program shall be a material breach of contract. During the term of an awarded contract, the prime contractor shall:

1. Fulfill the MBE and WBE participation commitments submitted with their bid;
2. Continue to make every effort to utilize MBEs and WBEs;
3. Require that their subcontractors make every effort to utilize MBEs and WBEs;
4. Maintain records necessary for monitoring their compliance with provisions contained in the M/WBE Program.

The primary responsibility for assuring contractor's compliance with these M/WBE contract requirements after award rests with the Owner's designated representative. The Owner's designated representative should ascertain that no one other than the approved MBE or WBE contractors or subcontractors are performing the work, and that MBE and WBE subcontractor substitutes have been approved in advance. The prime contractor shall not perform any contract work items without prior approval by the Owner's designated representative.

The Owner's designated representative shall advise the Minority Business Office immediately of any circumstances where a contractor appears to be in violation of the MBE and WBE contract requirements. An investigation will be held by the MBO and a recommendation for corrective action shall be forwarded to the Owner's designated representative. Intentional noncompliance with the MBE and WBE requirements may result in withholding funds on the items already completed, in termination of the contract, and/or formal debarment from future contracts. The Maricopa County Minority Business Office (MBO) reserves the right to inspect all records of the contractor, MBEs and WBEs concerning this project.

The MBO will conduct MBE and WBE compliance reviews on a regular basis.

F. Substitution of Subcontractors:

The prime contractor shall request approval to replace an approved MBE or WBE subcontractor that is unable or unwilling to perform successfully on a contract with another MBE or WBE. This failure does not remove the contractor's responsibility for meeting the MBE and WBE participation goals on the contract. A written request for substitution must be made to the Owner's Procurement Officer, through the appropriate Owner's representative, of the Procurement Agency. The substitute MBE or WBE, obtained to perform an equal or greater dollar value of work, must be approved

by the Owner's Procurement Officer, through the appropriate Owner's representative, prior to beginning of any work by the substitute MBE or WBE. The request for substitution must include, but is not limited to the following:

1. Reason for substitution.
2. Name, address, and telephone number of the approved MBE or WBE.
3. Name, address and telephone number of the MBE or WBE substitute.
4. Item, numbers, description of work and the proposed MBE and/or WBE dollar amount.
5. Good faith effort documentation if the substitute subcontractor is not an MBE or WBE.

G. Requests for Pay:

Each Request for Pay must be accompanied by a Maricopa County Minority/Women-Owned Business Enterprise Program MBE/WBE Participation Report in the form as provided in these documents. The final pay request shall include a listing of total contract MBE/WBE participation. Line numbers and a description of actual work performed shall also be included. If, at the time of contract completion, the MBE and WBE commitments are not actually attained, the report is to provide an explanation of failure to comply. These reports shall be submitted within thirty (30) days of contract completion, prior to release of any remaining contract retention.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
MINORITY/WOMEN-OWNED BUSINESS ENTERPRISE PROGRAM
MBE/WBE ASSURANCES AFFIDAVIT

NOTE: FAILURE TO COMPLETE AND SUBMIT THIS AFFIDAVIT WITH THE BID PROPOSAL
SHALL BE CAUSE FOR REJECTION OF THE BID.

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.

The first and second low bidders will specify their MBE/WBE participation on
the Actual Participation Affidavit or provide documentation of their good
faith efforts not later than 4:00 p.m., the seventh calendar day following the
bid opening. If participation is "None", the Affidavit will be completed and
returned with "None" so stated therein, together with the documentation of
bidder's good faith efforts to obtain the participation. This documentation
will be reviewed by the MBO to determine whether in fact a comprehensive "good
faith" effort has been implemented. The required affidavit shall be obtained
by the apparent first and second low bidders from the Minority Business
Office, Maricopa County Highway Department Building, 2901 West Durango Street,
Phoenix, Arizona 85009, following the bid opening and verbal notification
from the Procurement Officer of the Procurement Agency; a sample affidavit
form for reference purposes follows.

Name of Firm

Signature

Title

STATE OF ARIZONA)
)ss.
County of Maricopa)

Subscribed and sworn to before me this _____ day of _____,
199__, by _____.

Notary Public

S A M P L E
 COMPLETED AFFIDAVIT MUST BE SUBMITTED WITHIN SEVEN CALENDAR DAYS FOLLOWING BID OPENING
 FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
 MINORITY/WOMEN-OWNED BUSINESS ENTERPRISE PROGRAM
 Actual Minority/Women-owned Participation Affidavit

 Name of Prime Contractor FCD 91-03
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

STATE OF ARIZONA)
) ss
 County of Maricopa)

Subscribed and sworn to before me this _____ day of _____ by _____

 Notary Public

My Commission Expires: _____

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: Upper East Fork Cave Creek Channel
Landscaping

Contract Number: FCD 91-03

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, %: 6

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
2901 West Durango Street
Phoenix, Arizona 85009

CONTRACT AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____, 1992, 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 91-03; Upper East Fork Cave Creek Channel Landscaping, and furnish at its 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, 2801 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 its 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 its 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. 34-221.

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. The Maricopa County Minority Business Program implemented January 1, 1992, is incorporated by reference.

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:

CHIEF ENGINEER AND GENERAL MANAGER
FLOOD CONTROL DISTRICT OF
MARICOPA COUNTY

ATTEST:

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 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 Flood Control District of Maricopa County, dated the _____ day of _____, 1992, for FCD Contract 91-03; Upper East Fork Cave Creek Channel Landcaping, 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 it or its 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 _____, 1992.

PRINCIPAL SEAL

BY: _____

AGENT OF RECORD, STATE OF ARIZONA

AGENT ADDRESS

SURETY SEAL

BY: _____

BOND NUMBER. _____

POWER OF ATTORNEY SEAL

BY: _____

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 _____, 1992, for FCD Contract 91-03; Upper East Cave Creek Channel Landscaping, 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 _____, 1992.

AGENT OF RECORD, STATE OF ARIZONA

AGENT ADDRESS

BOND NUMBER

POWER OF ATTORNEY

SEAL

BY: _____

PRINCIPAL

SEAL

BY: _____

SURETY

SEAL

BY: _____

CERTIFICATE OF INSURANCE

CONTRACT FCD 91-03

PROJECT TITLE UEFCC Channel Landscape

NAME AND ADDRESS OF INSURANCE AGENCY	INSURANCE COMPANIES AFFORDING COVERAGES
	Company Letter A
	Company Letter B
	Company Letter C
	Company Letter D
	Company Letter E
NAME AND ADDRESS OF INSURED	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	
	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	<u>1,000</u> 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 type="checkbox"/> ENGINEERS PROFESSIONAL LIABILITY			EACH CLAIM AND ANNUAL AGGREGATE	
	<input checked="" type="checkbox"/> OTHER The Flood Control District of Maricopa County, Maricopa County, and the City of Phoenix, shall be named as additional insureds.				

Except for Professional Liability Insurance and 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
 2801 West Durango Street
 Phoenix, Arizona 85009

DATE ISSUED _____

 AUTHORIZED REPRESENTATIVE

Drafting\Farms\FarmB8 SFL

It is further agreed that:

The Contractor hereby agrees to indemnify and save harmless the Flood Control District of Maricopa County, Maricopa County, the City of Phoenix or any of their 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 Phoenix 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 Phoenix. The above cost of damages incurred by the Flood Control District of Maricopa County, Maricopa County, the City of Phoenix, or any of their 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

CONTRACT FCD 91-03

SUPPLEMENTARY GENERAL CONDITIONS

SPECIFICATIONS:

Except as otherwise required in these Supplementary General Conditions and the Construction Special Provisions, 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, together with Maricopa County Highway Department Supplements to the Uniform Standard Specifications.

PRECEDENCE OF CONTRACT DOCUMENTS

In case of a discrepancy or conflict, Project Plans will govern over the MAG Standard Specifications and Details. The Supplementary General Conditions and Construction Special Provisions will govern over the MAG Standard Specifications and Details and the Project Plans.

PAYMENT

Payment will be made for only those items listed in the proposal and will not be made in accordance with the measurement and payment provisions of the Standard Specifications where this differs from the items listed in the proposal. All material and work necessary for completion of this project are included in proposal items. Any work or material not specifically referred to in these items is considered incidental to the item and included in the unit price.

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 commence work within seven (7) calendar days after the date of the Notice to Proceed and complete all work within one hundred fifty (150) calendar days from the effective date specified in the Notice to Proceed, with the exception of the planting which must be completed within ninety (90) calendar days from the effective date of the Notice to Proceed. In the event the Contractor elects to work overtime, second shifts, weekends, or legal holidays, to complete the work that is not required by the Project Plans and these Supplementary General Conditions or Construction Special Provisions, the Contractor will be responsible to bear the additional costs that may be incurred by the Owner including engineering, inspections, testing, surveying and construction administration all in accordance with Section 108.5. These costs will be deducted from the monies due to the Contractor for each Payment Request. The costs associated with these items shall be incidental to the unit price items in the bid schedule.

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 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.

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 in the requirements of the work by the Contractor at its expense.

PROGRESS SCHEDULE:

The Contractor shall submit a proposed work progress schedule to the Engineer for review before starting work. Weekly updates shall be submitted to the Owner's Inspector at the weekly coordination meeting.

MATERIALS SOURCES:

Select Material, Aggregate Base, Mineral Aggregate, concrete, steel products 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 its proposed commercial sources prior to use, and shall present certificates stating that the material produced from any commercial sources is in accordance with the Uniform Standard Specifications and these Supplementary General Conditions.

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 Conditions".
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 its 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 its 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.
7. Add the definition for Maricopa County Minority Business Office (MBO); the office responsible for administering the Maricopa County Minority and Women Owned Business Enterprise Program.
8. Add the definition for the Maricopa County Minority and Women Owned Business Enterprise Program as being the Program adopted by the Board of Supervisors effective January 1, 1992.

Subsection 102.5 - Preparation of Proposal: Proposals, including the Bidding Schedule, must be legibly written in ink or typed.

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 602-506-1501. 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 the classification under which it proposes to perform the work shall be shown on the proposal. The two lowest bidders may be required to provide certification of prior satisfactory completion for similar construction and to furnish a copy of their license and the renewal certificate.

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

Subsection 102.7 - Irregular Proposals: Add the following to the MAG Specifications:

(F) If bidder fails to complete and submit the Maricopa County Minority and Women-Owned Business Enterprises Assurances Affidavit.

Subsection 103.5 - Requirement of Contract Bonds: A statement from bidder's surety or sureties shall be included in the proposal certifying that if the bidder is awarded a contract it will provide a Performance Bond and a Labor and Materials Bond, each in the amount of 100% of the contract price on default of either performance of the Work or payment of laborers and suppliers. As required by law, the statement will be from a surety company or companies duly authorized to do business in the State of Arizona, or countersigned by an agent of the surety authorized to do business in the State of Arizona.

Subsection 103.6 - Contractor's Insurance: A statement from bidder's insurance carrier shall be included in the proposal certifying that it will furnish the specified kind and amounts of insurance to the bidder if it is awarded the contract. As required by law, the statement will be from an insurance carrier or carriers authorized to do business in the State of Arizona, or countersigned by an agent of the carrier authorized to do business in the State of Arizona.

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 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 106.4 - Trade Names and Substitutions: Whenever an item or material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function and quantity required. Unless the specification or description contains or is followed by words reading that no like, equivalent or "or-equal" item or no substitution is permitted, other items of material or equipment of other Suppliers may be accepted by Engineer under the following circumstances:

A) "Or-Equal": If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it

may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items.

B) Substitute Items: If in Engineer's sole discretion an item does not qualify as an "or-equal" item under subparagraph 105.2.1 (A), it will be considered a proposed substitute item. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. The procedure for review by the Engineer will include the following as supplemented in the Special Provisions and as Engineer may decide is appropriate under the circumstances. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor. If Contractor wishes to furnish or use a substitute item of material or equipment, Contractor shall first make written application to Engineer for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice contractor's achievement of completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for work on the project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by the Engineer in evaluating the proposed substitute. Engineer may require Contractor to furnish additional data about the proposed substitute.

C) Contractor's Expense: All data to be provided by Contractor in support of any proposed "or-equal" or substitute item will be at Contractor's expense.

106.4.1 - Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence or procedure of construction is shown or indicated and expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence or procedure of construction acceptable to Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by Engineer will be similar to that provided in subparagraph 105.2.1(B).

106.4.2 - Engineer's Evaluation: Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to subsections 105.2.1 and 105.2.2. Engineer will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized without Engineer's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any "or-equal" or substitute. Engineer will record time required by Engineer and Engineer's Consultants in evaluating substitutes proposed or submitted by Contractor pursuant to subparagraphs 105.2.1(B) and 105.2.2 and in making changes in the Contract Documents (or in the provisions of any other direct contract with Owner for work on the project) occasioned thereby. Whether or not Engineer accepts a substitute item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer and Engineer's Consultants for evaluating each such proposed substitute item.

Subsection 106.5 - 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 its 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.....	506-1501
US West Communications.....	831-4647
Arizona Public Service.....	371-7171
Location Staking (A.P.S., Mtn. Bell, S.R.P.).....	263-1100
Maricopa County Highway Department.....	506-8600

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 108.8 - Guarantee and Warrantee Provisions: Shall be as specified in MAG, with the exception of the Controller, Spray Heads, and Remote Control Valves which will have a 5 year guarantee from the date of final acceptance.

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 109.1 - Measurement of Quantities: Measurement for payment shall be made for the actual work completed as determined by the Engineer. Payment will be made at the bid unit price, which price shall include the cost of all labor, materials, tools, equipment, transportation, permits, and incidentals required for performing the work as specified. Monthly Progress Payments of the agreed to value of the work accomplished shall be made by the District.

Measurements of placed materials and/or constructed items will be made after completion of the project to determine compliance with the specifications. Any deficiencies in thickness or width shall be corrected by the contractor before acceptance by the FCDMC.

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 109.2 - Scope of Payment:

In addition to the contained provisions, the work under this section shall consist of preparatory work and operations, including but not limited to, the movement of personnel, equipment, supplies and incidentals to the project site; the establishment of all offices, buildings and other facilities necessary for work on the project, and for all other work operations that must be performed and costs incurred prior to beginning work on the various items on the project site.

Mobilization will be measured for payment as a lump sum, a single complete unit or work.

Payment for mobilization, measured as provided above, will be made at the contract lump sum price, when so called for in the Bid Schedule, which shall be full compensation for supplying and furnishing all materials, facilities and services and performing all the work required. If payment for mobilization is not a separate bid item, then such costs shall be considered incidental.

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. Each pay estimate must include the required Maricopa County Minority/Women-Owned Business Enterprise Program Participation Report.
2. Except as provided by A.R.S. 34-221, retention will be effective for the total contract period.

**CONSTRUCTION SPECIAL PROVISIONS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY PROJECT
FOR THE
UPPER EAST FORK CAVE CREEK CHANNEL LANDSCAPE
FCD N° 91-03**

LOCATION OF WORK

The project is within the Upper East Fork Cave Creek Channel right-of-way between Beardsley Road and Union Hills Drive.

PROPOSED WORK

The work consists of providing all materials necessary to construct a complete and functioning watering system, planting trees, shrubs, and groundcovers, providing watering system for previously transplanted trees, installing stabilized decomposed granite paths, and other miscellaneous items of work required for the completion of the project.

GENERAL

- A.. The Contractor shall limit construction activities and ingress/egress of equipment and vehicles to the channel right-of-way delineated on the drawings.
- B. The Contractor shall utilize the staging area designated on the drawings for the evening and weekend storage of construction equipment and vehicles, and for daily parking of private vehicles.
- C. During construction, the Contractor shall protect in-place plantings indicated on the Drawings as "existing" or "transplanted native desert trees."
- D. Contractor shall locate and protect existing underground utilities and structures. Responsibility for repair of damage to underground utilities or structure due to landscape or watering system installation is included in this contract at no additional expense.
- E. The Contractor shall use the District Field Engineer as the primary point-of-contact for the duration of the project.
- F. The Contractor shall exercise extreme care in providing dust control, and shall strictly follow all governing agency requirements.

SECTION 314: STABILIZED DECOMPOSED GRANITE (SDG) (Add this Section to the MAG Uniform Standard Specifications):

Subsection 314.1 - General:

Work in this Section consists of furnishing all labor, equipment, tools, materials, survey and layout, fine grading, subbase preparation, and performing all work necessary for the installation of stabilized decomposed granite at the locations and in accordance with details shown on the project plans and these Construction Special Provisions.

Subsection 314.2 - Description:

The stabilized decomposed granite is a blended mix of 1/4" minus Mission Red granite and stabilizer, the latter manufactured by Stabilizer, Inc., Phoenix, Arizona or equal as approved by the Engineer.

Stabilizer shall be blended with decomposed granite at an approved blending plant to create surface course material at a rate of 12 lbs. of stabilizer per one ton of decomposed granite. The blended material is subject to sampling and testing per MAG Specification Section 106.

<u>SIEVE SIZE</u>	<u>%</u>
<u>PASSING</u>	
3/8"	100
No.4	98
No.8	77
No.16	58
No.30	45
No.50	32
No.100	22
No.200	14.6

Submit sieve analysis for review by Engineer.

Subsection 314.3 - Base:

The existing finish grade shall be undercut 2" at edges and 1-1/2" at center for the length of the SDG. The Contractor shall compact as required any disturbed areas to provide firm subbase to match existing adjacent soil at the direction of the Engineer.

Subsection 314.4 - Application of Stabilised Decomposed Granite:

The stabilised decomposed granite shall be delivered to the site already blended. Initial grading and leveling will leave a somewhat inconsistent surface which shall then be leveled with a gannon, light drag or similar piece of equipment. The surface course shall be watered so that the moisture permeates the full 2" depth. Compacting shall commence after the moisture has permeated the 2" depth and all standing water has filtered into the decomposed granite. Compaction shall be completed by the time that dry areas appear on the surface or at the direction of the Engineer. Finally, the surface course shall be compacted with four passes using a four ton double-drum steel roller, or similar to give a final minimum depth of 2".

Re-making of surface in small areas where significant disturbances have occurred shall be hand raked, watered and hand tamped.

If re-making requires additional Stabilised decomposed granite, the repair shall be made as follows: Moisten and scarify the affected areas. Apply stabilised decomposed granite and grade. Water through full depth of repaired area and compact as directed by the Engineer.

The Contractor shall prepare a sample area of no less than 10 square yards of stabilised decomposed granite for the Engineer's approval. The sample area may be part of the area requiring stabilised decomposed granite and this sample, once approved, will be used by the Engineer to determine the acceptability of the remaining work under this item.

Subsection 314.5 - Payment:

The stabilised decomposed granite will be paid at the unit price bid per square yard compacted in place as established on the Bid Schedule for BID ITEM 314. This shall be compensation in full for furnishing all labor, materials, equipment and installing complete in place as shown on the plans and as specified to the full path width.

SECTION 401 - TRAFFIC CONTROL (is modified to add):

Subsection 401.1 - Description: The Contractor shall schedule the work and the delivery of plants and materials so that at no time will normal street traffic patterns be interrupted.

Subsection 401.7 - Payment: Payment to maintain normal street traffic patterns as described above is considered incidental to the work.

SECTION 430 - LANDSCAPING AND PLANTING (is modified to add):

Subsection 430.1- Description:

The Contractor shall be responsible for the preservation and protection of all trees, plants, monuments, structures and paved areas from damage due to this work. In the event damage does occur, all damage to inanimate items shall be completely repaired or replaced to the satisfaction of the Engineer, and all injury to living plants shall be repaired by the Owner or such persons as he may employ to accomplish this work. All the costs of such work shall be charged to and paid by the Contractor. Open ditches left exposed shall be flared and barricaded by the Contractor. Damage caused by the Contractor to asphalt, concrete or other building material surfaces shall be repaired or replaced by the Contractor at his expense. Contractor shall restore disturbed areas to original condition.

The Contractor shall be responsible for weed control of entire project area through the plant maintenance period.

Protection and Repair of Underground Lines. The Contractor shall be responsible for requesting the proper utility company and Blue Stake to locate any underground electric, gas, water, storm drains, sanitary sewers, telephone, cable TV, and communication lines. The Contractor shall take whatever precautions are necessary to protect underground lines from damage, including the use of a trace device for electric current in conduit or water in pipes. In the event damage does occur, all damage shall be repaired by the Owner or such persons as he may employ to accomplish this work. All costs of such work shall be paid by the Contractor unless other arrangements have been made.

Subsection 430.2 - Pre-emergence Weed Control:

Provide pre-emergence control, such as Dacthol or equal, to the entire unpaved site area after preliminary grading is complete. Apply pre-emergence control in accordance with the manufacturer's recommendations. Provide second treatment after plant material is installed.

Subsection 430.5 - Tree, Shrub and Groundcover Planting:

This work shall consist of transporting and planting containerized plants as specified and indicated on the drawings.

Subsection 430.5.2 - Plant Inspection Prior to Delivery to Site:

Containerized plants shall be healthy, shapely, and well rooted, with roots showing no evidence of having been damaged, restricted, or deformed. Plants shall be vigorous and free of disease, insect pests, eggs, or larva.

Quality and size of plants shall be in accordance with rules and grading adopted by the American Association of Nurserymen, Inc., the Arizona Nursery Association, and included in the American Standard for Nursery Stock. Plant materials shall be grown in nurseries which have been inspected by the State Department of Agriculture and have complied with the regulations thereof. Inspection certificates shall be submitted to the Engineer. The Contractor shall obtain clearance from the County Agricultural Commissioner, as required by law, before planting plants delivered from outside the county in which they are to be planted. Evidence that such clearance has been obtained shall be filed with the Engineer.

Subsection 430.5.4 - Plant Location:

The Contractor shall give two day prior notice for plant location inspection by the Engineer.

Subsection 430.5.6 - Shrub and Tree Pits:

The minimum planting pit size for 1 gallon, 5 gallon and 15 gallon container plants shall be twice the width and 1 1/2 times the depth of the container size.

The side of the tree pit shall be vertical for the lower half and tapered for the upper half, slightly scarified, and the bottom shall be loosened to a minimum depth of 2 inches.

For containerized plants, backfill mixture shall consist of one part organic soil conditioner (Section 795) and two parts soil conditioner (Section 795) and two parts soil by volume. Add, per 15 gallon tree, one pound gypsum and four ounces soil sulfur. Add, per 5 gallon shrub, one-half pound gypsum and one ounce soil sulfur. Add, per one gallon shrub or ground cover, one-fourth pound gypsum and two ounces soil sulfur. Planting backfill shall be thoroughly blended to a homogeneous mixture prior to use in backfilling operations. Remove stones greater than 1" diameter from backfill mix.

Prior to backfilling, tablets of slow release fertilizer shall be included. Fertilizer shall have IBDU (Isobutylidene - diurea), and shall bear the manufacturer's guaranteed statement of analysis. Slow release fertilizers shall contain a minimum percentage by weight of: 14 percent nitrogen, 3 percent available phosphoric acid, and 3 percent potash.

Quantity of Tablets Per Plant Size

- 1 gal -- 1 tablet
- 5 gal -- 2 tablets
- 15 gal -- 4 tablets
- 24"box -- 6 tablets
- >24"box -- 8 tablets

Subsection 430.5.7 - Planting requirements:

No planting will be allowed in soil that, in the opinion of the Engineer, is too wet, too dry or otherwise improperly conditioned.

Containerized plants shall be removed from containers just prior to planting. Cans shall be cut on at least two sides opposite each other so as to remove plants without damage to the rootball. Plants found to be root or pot bound will not be accepted.

Immediately after planting, tree stakes shall be installed. Stakes shall be driven vertically to 6" below the bottom of the plant pit and shall not be driven through the rootball of the plant. Provide two stakes per tree. Shrubs shall not be staked.

New plant material shall be pruned in the following manner. Remove dead and broken branches. Prune trees to reduce total amount of anticipated foliage by one fourth. Preserve typical growth habit of individual plants with as much height and spread as is practicable. Make cuts with sharp instruments. Make cuts flush with trunk or adjacent branch to insure elimination of stubs. Do not make "headback" cuts at right angles to line of growth. Do not remove tree leaders.

Subsection 430.7 Clean Up:

Excess and waste material shall be removed daily. When planting in an area has been completed, they shall be cleared of all debris, spoil piles, and containers.

Subsection 430.8 - Plant Guarantee and Maintenance:

Maintenance operations shall begin immediately after each plant is planted and shall continue through substantial completion and plant establishment period as required until final acceptance. Plants shall be kept in a healthy, growing condition by watering, pruning, spraying, weeding, and any other necessary operations of maintenance. Plant saucers and beds shall be kept free of weeds, grass, and other undesired vegetation. Plants shall be inspected at least once per week by the Contractor during the plant establishment period and needed maintenance and replacement performed promptly.

Subsection 430.9 Plant Establishment Period:

This work shall consist of furnishing all materials and labor necessary to establish and/or replace plants and to assure maximum possible survival and vigorous growth of all plant material installed as well as relocated box trees watered by this installation.

Periodic inspections shall be performed by the Engineer to determine if plant establishment is taking place. All dead and unhealthy stock shall be removed and replaced and any corrective measures as directed by Engineer (including removal of tree stakes or restaking trees) taken within 7 calendar days from the date of any such inspection. The Contractor shall notify the Engineer in writing when the work has been performed. Stock furnished for replacement shall be of the same size as species originally specified.

The survivability of a plant shall be determined by the Engineer.

The Contractor shall be responsible for irrigating the planted trees and shrubs as necessary to keep the soil reasonably moist throughout the root system during the Landscape Establishment Period as approved by the Engineer.

Tree pruning during Landscape Establishment Period shall be directed and supervised by Engineer.

For replanted boxed salvage trees, soak well after planting. Water slowly over long period to penetrate down to bottom of root ball and settle all backfilling.

The period of establishment shall begin on the date that an inspection by the Engineer shows that all plants are in place and have been installed in accordance with the specifications and plans.

Replacement of plants that were not supplied by the Contractor but have a drip system installed per this contract (designated "transplanted native desert trees") and that die will be required. Loss through negligence performed during this contract shall require replacement in kind and size and shall be at the Contractor's expense. The Contractor shall water and maintain transplanted native desert trees through the entire project duration.

A post construction inspection by Contractor and Engineer shall be held two months from beginning of plant establishment period to determine plant acceptability and the number of replacements. Alternate or substituted varieties of plants shall be used only if approved by the Engineer.

A final inspection of all plants will be held after the replacement planting has been completed. No additional plant establishment period will be required for replacement plants. The establishment period will end on the date of this inspection and said inspection will be considered final acceptance provided the Contractor has complied with the following requirements:

1. Dead, missing, and defective plant material shall have been replaced as directed by the Engineer. Otherwise, final acceptance will be delayed until such replacements have been accomplished.

2. Watering basins shall be free of weeds.
3. Stakes and guys shall be in good condition.
4. Remedial measures directed by the Engineer to ensure plant survival shall have been carried out.
5. Plant material shall have been fertilized as required prior to acceptance.

Subsection 430.10 Measurement and Payment:

After planting is completed, an inspection will be scheduled to determine the adequacy of the planting. Upon acceptance, such work may be included in progress payments.

The Unit prices established on the Bid Schedule shall be full compensation for furnishing all labor, materials, tools and equipment and for performing all work for BID ITEMS 430-1 thru 430-4 necessary to complete the landscaping operation to include planting of trees, shrubs, groundcover, placement of staking and tie wire, and application of fertilizer, organic soil conditioners, and soil sulfur. Water used in planting and maintenance is considered incidental to the work and shall be included in the above BID ITEMS.

The unit price established on the Bid Schedule for BID ITEM 430-5 shall be to maintain the irrigation system and all plantings during the two (2) month Plant Establishment and Maintenance Period. This item shall include keeping the entire project free of weeds and debris. Water used for plant maintenance during the Plant Establishment Period is considered incidental to the work. This item shall begin with the beginning of the Plant Establishment Period.

SECTION 440 - SPRINKLER IRRIGATION SYSTEM INSTALLATION (is modified to add):

Subsection 440.1 - General:

The manufacturer's literature on the following materials and equipment to be furnished under this specification shall be submitted for approval:

- Automatic Controller System and Enclosure
- Pressure Sensor and Regulator
- Flow Sensor
- Backflow Preventor
- Fertilizer Injector
- Booster Pump System
- Spray Heads
- In Line Emitter Tube System
- Filters
- Flush end caps
- PVC pipe and fittings
- Electric Remote Control Valves
- Pressure Regulating Devices
- Manual Gate valves
- Other components listed in specifications and on project drawings.

VARIATION IN ARRANGEMENT OF IRRIGATION EQUIPMENT from that indicated on drawings will be permitted upon approval of the Field Engineer. If a variation is proposed, the Contractor shall submit a shop drawing for approval in accordance with the SPECIAL CLAUSES. If any conflicts occur necessitating deviation from the construction documents, details of deviations, hydraulic calculation and reasons shall be submitted as soon as practicable for written approval of the Engineer. Hydraulic calculations shall include application rate per hour, layout for emitters (dripline) for design flow rate and pressure, and friction loss through pipe fittings, valves and accessories.

Upon completion of the installation of the irrigation system and appurtenances, all debris and surplus materials resulting from the work shall be removed.

Subsection 440.2 Trench Excavation and Backfill:

Do not trench within 72" of any existing plant or underneath drip line of any existing tree canopy.

Subsection 440.3 - Pipe Installation:

Pipe accessories shall be handled so as to insure delivery to the trench in sound, undamaged condition. The interior of pipe and accessories shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations by plugging or other approved method. Before installation, the pipe shall be inspected for defects. Material found to be defective before or after laying shall be replaced with sound material at no additional cost to the District.

Plastic pipe shall be installed in accordance with the procedures recommended in ASTM D 2774 and as herein specified.

Connections between different types of pipe and accessories shall be made with transition fittings approved by the Engineer.

All plastic lines shall be installed in existing sleeves under paved areas, spillways and other structures. Additional sleeves where indicated on drawings shall be installed under future roadways, and at minor paving areas.

Warning tape (3" wide) shall follow the pressured main lines and terminate in each equipment box containing a valve.

Where any cutting or breaking of sidewalks and/or concrete is necessary, it shall be done and replaced by the Contractor as part of the contract cost. Permission to cut or break sidewalks and/or concrete shall be obtained from the Engineer prior to commencement of any cutting. If during the warranty period there is any settling or heaving of any paved areas as a result of the piping installation, the Contractor shall immediately restore the paved area to its original condition. The damaged paving shall be removed 24 inches beyond the edges of the damaged area. The trench backfill shall be re-excavated, the area re-backfilled and re-compacted in lifts, according to specifications, then the paving shall be replaced.

Subsection 440.4 - Valves, Equipment Boxes, and Special Equipment Installation:

Valves and equipment boxes shall be installed where shown or directed, and shall be set plumb. Equipment boxes shall be centered on the valves. Valves shall be located outside the area of roads and streets. Earth fill shall be carefully tamped around each equipment box to a distance of 4 feet on all sides of the box. Valves shall have the interiors cleaned of all foreign matter before installation. Provide equipment box and matching lid of same manufacturer. When equipment boxes are grouped together, allow at least 12 inches between boxes. Top of equipment box shall be 1/2" above finish grade.

Install remote control valves in locations as indicated on the drawings. Fit with plastic equipment box and bolted cover. Top of box and cover shall be 1/2 inch above finish grade.

All material used for equipment boxes and covers shall be in accordance with Section 757 of the Uniform Standard Specifications with modifications as specified below in 757.3.7 and 757.3.8.

Subsection 440.5 - Sprinkler Head Installation and Adjustment:

(D.) In-line Emitter Tube Drip System. Install closed loop assembly with components of a single manufacturer, as indicated on the Drawings and in accordance with manufacturer's instructions. Install dripper ports facing upward.

(E) Gear-driven Spray Head System. Install to pattern indicated on the Drawings and in accordance with manufacturer's instructions. It is understood that spray coverage is not even--this is the intention of the design for future desert hydroseed installation.

Subsection 440.6 - Automatic Control System:

Automatic controller. Connections to items in the enclosure box are as follows: Connect drip and spray valves to field unit through output terminals. Wire surge protection as detailed. Pressure control shall be wired to one of the input terminals on the field unit. Wire flow sensor to the conversion module which is connected to one of the input terminals on the field unit. Wire radio interface to the controller in the enclosure. Mount radio antenna outside the enclosure or as indicated on the drawings. All wiring above grade shall be installed in fiber reinforced epoxy electrical conduit and in conformance to the applicable electrical codes.

Prior to initial inspection, program controller in gallons per minute (GPM) to allow for testing of all components of the automatic control system.

The Field Satellite Transceiver shall be a trunked radio and of the same manufacturer as the automatic controller. The radio shall be able to communicate and be compatible with the existing irrigation central control monitoring facility.

Electrical wiring for remote control valves. The electrical wiring shall be solid, single conductor, copper wire, type UF, size recommended by the Controller Manufacturer except that minimum wire size shall be N° 10. Common wire shall be different color from all others and be minimum wire size of N° 8. Regardless of the number and location of valves connected to a single controller station, separate control wires shall be run from the controller station to each valve to locations indicated on the drawings. Wiring from controller to each valve shall be installed in 2" rigid PVC class 125 conduit. Install a spare set of 2 control wires. Spare wires must be a different color. Nesting of electric control valve wiring shall be done inside enclosure box only.

All wiring connections shall be waterproofed using one of the following component systems: 3M DBY Splice Kit (Scotchlock Y Electrical Spring Connector). Rain Bird ST-03 Snap Tight, UL Connectors and PT S5 Sealer, or as indicated on the drawings.

Pull boxes (see also 757.3.8) shall be installed every 200 feet or 90 degree change in pipe direction. Include gravel sump at bottom of pull box installation after compaction of all trenches. Box lids shall be labeled "low-voltage elec splice" in minimum 1" high by minimum 1/16" and maximum 1/8" deep letters.

All conduit openings in pull boxes shall be sealed with expandable foam sealer. Label all wiring in pull boxes and in controller enclosure with plastic identification tags as approved by the Engineer.

Subsection 440.6.1 Riser Assembly (is added):

Layout assembly and irrigation enclosure (shop drawing, plan only) and review clearances with Engineer prior to construction. Construct assembly as diagrammed and indicated on the Drawings. Provide copper type 'K' pipe and fittings above ground throughout assembly. Make all connections with similar metals. Provide interface between booster pump and controller.

Subsection 440.6.2 Irrigation Enclosure (is added):

Provide concrete and ornamental iron and redwood irrigation enclosure as indicated on the drawings.

Subsection 440.7 - Flushing and Testing: First paragraph (is modified to add):

Testing of plastic pipe shall not be done until all joints have had at least 24 hours to set and cure. During cold weather, allow minimum 48 hours to elapse for set prior to testing. No water under pressure shall come in contact with any joint during the specified curing period. In hot weather, water shall not be permitted to stand in pipes until after backfilling is completed. Water used in testing shall be drained from pipes after completion of testing.

Revise third paragraph to read: (B) Coverage Test. When the emitter dripline system is complete the entire system shall be adjusted to demonstrate the water coverage is complete and adequate and that the system conforms to the manufacturer's requirements in accordance with the plans and specifications. All deficiencies and inadequacies resulting from defective or inadequate materials and/or workmanship shall be corrected at no additional cost to the Owner. In the event any modifications to the system or deviation from the approved plans and specifications are directed, an adjustment in contract price will be made.

Subsection 440.8 - Payment:

Payment will be made at the unit prices established in the Bid Schedule. Each item is more fully described to include but not be limited to the following:

BID ITEM 440-1 AUTOMATIC CONTROLLER:

A complete and functioning control station including:

- 52 station controller
- Stainless steel enclosure box
- Terminal strip
- Transceiver with antenna
- Electrical panel, outlets and transformer
- PVC conduits
- Flow conversion module
- All interface control wiring to the master control valve, flow meter and pressure switch
- Testing and calibration of irrigation system.
- Eight hours of training for District maintenance personnel by manufacturer's representative
- All other work and components incidental to the proper operation of the controller

BID ITEM 440-2 BOOSTER PUMP:

A complete and functioning booster pump including all interface wiring to the controller.

BID ITEM 440-3 RISER ASSEMBLY:

A complete and functioning riser assembly including:

- Supply piping and connection to existing water meters at Beardsley Road
- Pipe, fittings, unions and reducers
- Master control valve
- Manual gate valves
- Flow sensor
- Pressure controller
- Manual fertilizer injector
- Check Valves
- Backflow preventor
- Spin clean filter
- Hose bib
- Pipe supports and deadmen
- Pressure gauges
- All other components incidental to the proper operation of the riser assembly.

BID ITEM 440-4 IRRIGATION STATION:

A complete irrigation station enclosure including:

- Reinforced concrete
- Ornamental iron fencing and gates
- Redwood slats with clear finish
- Gravel
- Complete subgrade preparation

BID ITEM 440-5 PVC PRESSURIZED MAIN:

A complete and in-place pressurized main including:

- Warning tape
- Installation through existing sleeves
- Concrete thrust blocks
- Installation under existing structures and maintenance road including restoration of decomposed granite

BID ITEM 440-6 PVC SLEEVE:

A complete sleeve network for emitter blank tubing where under maintenance road including:

- Installation under existing maintenance road including restoration of decomposed granite

BID ITEM 440-7 CLASS 200 PVC FEEDER:

A complete and in-place feeder system for spray and drip system including:

- Spray head supply mains and laterals
- Drip supply mains and laterals
- Drip supply and exhaust headers
- All fittings and adapters
- Placement under existing structures and maintenance road including restoration of decomposed granite

BID ITEM 440-8 REMOTE CONTROL DRIP VALVE ASSEMBLY:

Assembly shall include electric remote control valve, wye-strainer, pressure regulating device, unions reducing couplings, and 12" x 18" equipment box with cover and gravel sump.

BID ITEM 440-9 REMOTE CONTROL SPRAY VALVE ASSEMBLY:

Assembly shall include electric remote control valve with built-in pressure regulator, wye-strainer, unions, reducing couplings, 12" x 18" equipment box with cover and gravel sump.

BID ITEM 440-10 MANUAL GATE VALVE / VENT - VACUUM BREAKER ASSEMBLY:

Assembly shall include gate valve, air relief device, unions, 12" x 18" equipment box with cover, concrete thrust block, and gravel sump.

BID ITEM 440-11 MANUAL GATE VALVE ASSEMBLY:

Assembly shall include gate valve, unions, 12" x 18" equipment box with cover, concrete thrust block and gravel sump.

BID ITEM 440-12 CONDUIT WITH CONTROL WIRING:

A complete system of conduit runs from the electric remote control valves to the automatic controller including the following incidental items:

- Control wires
- Common wire
- Spare wires
- 12" x 18" equipment boxes and covers
- Waterproof wire connections

Quantities of the above incidental items will not be measured in the field; costs shall be lumped in with the measured lineal foot cost of the conduit runs.

BID ITEM 440-13 SPRAY HEAD ASSEMBLY:

Spray heads shall be of arcs as indicated on the plans. Include swing joints for each spray head.

BID ITEM 440-14 IN-LINE EMITTER TUBE ASSEMBLY:

Emitter tube with emitter quantity per schedule. Include blank tube as required and all necessary fittings and hardware for a complete and functioning drip system.

BID ITEM 440-15 DRIP LINE SELF FLUSHING END VALVE:

Assembly shall include self flushing end valve, cylindrical equipment box and gravel sump.

BID ITEM 440-16 DRIP LINE AIR RELIEF / VACUUM BREAKER:

Assembly shall include air relief / vacuum breaker, cylindrical equipment box and gravel sump.

SECTION 757 - SPRINKLER IRRIGATION SYSTEM (is modified to add):

Subsection 757.2.2 - Plastic Pipe:

Plastic pipe to conform to ASTM D 1785, schedule 40 for pipe with solvent welded joints and schedule 80 for pipe with threaded joints, or to ASTM D 2241, Type 1, grade 1, schedule 40 PVC for pressurized main lines and 200 psi for other lines for pipe with solvent welded joints. Pipe and fittings shall bear the seal of approval (NSF mark) of the National Sanitation Foundation's Standard for plastic pipe and fittings for potable water service. Plastic pipe stored on the construction site shall be protected from sunlight and from dirt entering pipe.

Subsection 757.2.3 - Pipe Fittings and Couplings :

(C) Use of pipe dope or solvents on threaded joints will not be permitted. Fittings shall conform to ASTM D 2464 or D 2466.

Subsection 757.2.5 - In Line Emitter Tube System:

Provide pressure compensating dripper flow rate system, "Netafim" or equal, with 5 PSI minimum to 60 PSI maximum inlet pressure range. Provide polyethylene standard 1/2" nominal flexible tube size. (I.D.: 0.57", O.D.: 0.67"). For dripper pipe, provide discharge of 0.5 GPH (0.42 actual) and 1.0 GPH (0.92 actual) spaced as indicated on Drip Emitter Schedule. Combination of 1/2" diameter dripper and solid tube sections shall be no more than 350' in length. Provide connections and accessories of one manufacturer as indicated and detailed.

Subsection 757.3.2 - Gate Valves:

Valve connections shall be as required for the piping in which they are installed. Valves shall have a clear waterway equal to the full nominal diameter of the pipe, and shall be opened by turning counterclockwise. The operating nut or shell shall have an arrow, cast in the metal, indicating the direction of the opening. Gate valves shall be designed for the working pressure of not less than 200 psi. Valves smaller than 3" shall be all bronze and shall conform to Fed. Spec. WW-V-54, Type I. Valves 3" and larger shall be iron body, bronze mounted, and shall conform to AWWA C 500.

Subsection 757.3.4 - Electric Remote Control Valves: The remote control valves and the master control valve shall be electrical actuated and constructed of corrosion-resistant materials. The valve shall have an internal manual operation which allows the opening and closing of the valve without electrical power, or external bleed of water. The valve shall have a self-cleaning screen and a removable housing cover for easy in-line maintenance. Each spray valve shall have a built-in pressure regulating device.

Materials: body - brass
 diaphragm - reinforced rubber with O-ring and stainless steel pressure plate

Performance: 1-1/2" - valve - min. 5gpm , max. 40 gpm (drip station)
(flowrates) 2 1/2" valve - min. 60 gpm, max. 250 gpm (spray station)

The solenoid actuator shall be 24 volt A.C. 2-way type. Inrush and holding current shall be no more than 400 mA and 300 mA respectively. The solenoid shall require approximately 1/3 the inrush current as standard 24 volt A.C. solenoids.

Subsection 757.3.7 - Equipment Box: Boxes shall be plastic. Plastic boxes shall be a standard catalog product of a manufacturer regularly engaged in the manufacture of valve boxes. Boxes shall have boltable covers, bolts shall be stainless steel. Plastic shall be rigid combination of polyolefin and fibrous inorganic materials having the following physical properties:

ASTM Test	Method	Properties
Tensile Strength (2.0 in Min.)	D-638	3,400 psi
Impact Strength, Izod	D-256	0.5ft - lb/in.
Shore-D Hardness	D-2240	63
Deflection Temp. @ 66 psi stress	D-648	230 degrees F.
Specific Gravity	D-792	1.15

Install one box for each type of valve, self-flushing end valve end valve, and air relief / vacuum breaker assembly installed as per details. Gravel sump shall be installed after compaction of all trenches. Final portion of gravel shall be placed inside valve box after valve box is backfilled and compacted. Controller letter and station number are to be branded on the lid of each remote control valve box. Letter and number size to be on smaller than one inch and no greater in size than 1-1/2 inch, depth of branding to be no more than 1/8 inch and no less than 1/16 inch into valve box lid.

Install one wire pull box for every 200 feet or 90 degree change in pipe direction. Gravel sump shall be installed after compaction of all trenches. Box lids shall be labled with the works, "low voltage electrical splice", Letter size to be no smaller than one inch and no greater than 1 - 1/2 inch, depth of branding to be no more than 1/8 inch and no less than 1/16 inch into pull box lid.

All conduit openings in pull boxes shall be sealed with expandable foam sealer. Label all wiring in pull boxes and controller with plastic identification tags as approved by the Engineer.

Subsection 757.3.8 - Spray Head:

Provide gear driven spray head, "Toro S-610 Series " or equal, stainless steel sleeve, check valve to prevent bleed of lower elevation heads, no rubber cover, N° 12 nozzle with arc as scheduled on the drawings.

Subsection 757.3.9 - Irrigation Filter (secondary main line):

Irrigation Filter (lateral line) shall be a WYE type with a 150 mesh screen or smaller, "Wilkins N° YSBR100" or equal. The filter shall be constructed of brass, threaded at both ends and come with a "ball" type flush valve connection.

Subsection 757.3.10 - Air Relief / Vacuum Breaker (drip line system):

Air relief valve / vacuum breaker, "Toro N° TLAVRV" or equal, shall allow air to purge up to 125 psi during the fill process and allow air to enter during drain down. The valve shall be installed in accordance with manufacturer's written instructions in a cylindrical equipment box (see 757.3.7).

Subsection 757.3.11 - Air Relief Valve (pressurized main line):

Air relief valve, Richdel N° R561" or equal, shall allow air to purge up to 125 psi. The relief valve along with the manual gate valve shall be installed in accordance with manufacturer's written instructions in a 12" x 18" equipment box with cover.

Subsection 757.4 - Backflow Prevention Assembly:

Backflow prevention unit, "Wilkins N° 575RP" or equal, installed in the riser Assembly. Where union connections are not provided as part of the unit, provide a union or sleeve type coupling upstream of the inlet side of the unit. Pipe and fittings for backflow prevention units shall be bronze.

Reduced Pressure Backflow Prevention Unit. Provide a factory assembled unit consisting of two independently acting spring loaded check valves with a differential pressure relief valve controlled reduced pressure zone in between and shall be complete with test cocks and drain. The first check valve shall reduce the supply pressure a predetermined amount so that during normal flow and the cessation of normal flow the pressure between the checks is less than the supply pressure. The pressure differential relief valve shall automatically discharge to atmosphere to maintain the pressure in the reduced pressure zone below the supply pressure. All parts shall be removable for replacement without removal of the unit from the line. The unit shall be suitable for a working pressure of 125 pounds per sq. in. and shall be the product of a manufacturer regularly engaged in the production of reduced backflow prevention units.

Subsection 757.6.3 - Electronic Controller Unit:

Automatic Controller (see also 440.6) shall be Motorola MIR 5000 F or equal computer controlled field satellite system capable of radio communication with a remote (off site) central computer. Automatic Controller shall be multi wired, with stand alone microprocessor base, capable of performing up to eight independent irrigation functions simultaneously, and capable of communicating with (and being fully compatible with) the District's existing central irrigation control equipment. The controller shall be connected by communication cable to the transmitter / receiver unit as indicated on the drawings. The minimum station capacity shall be 28 inputs and 52 outputs. Automatic Controller shall be mounted in an enclosure as indicated on the drawings.

Subsection 757.7.1 - Fertilizer Injector:

Fertilizer Injector, "H.E.Anderson, Series S" or equal shall be a feeder, water operated, positive displacement proportioning chemical metering pump. The pump shall come with plastic tubing, foot valve strainer, suction valve and discharge valve. The pump minimum operating pressure shall be 15 psi and the maximum operating pressure shall be 125 psi. The fertilizer injector's adjustable feed can be changed while the pump is operating. The fertilizer injector shall have the following options:

Diaphragm - Hypalon
Head - PVC
Valve - Double
Single Head Fittings - Universal Injector

Install the fertilizer according to the manufacturer's requirements and as indicated on the drawings.

Subsection 757.7.2 - Irrigation Filter (riser assembly):

Irrigation Filter, "Agricultural Products, Inc., 4E Spin Clean" or equal shall be a centrifugal action filter which forces incoming water through a directional nozzle plate onto the inside of the filter screen. Debris is forced down in rotating motion into a holding basin at the bottom of the filter and by opening a flush valve, the particles may be removed. Install the irrigation filter according to the manufacturer's requirements and as indicated on the drawings.

Filter Housing shall be constructed of ten gauge steel, epoxy coated, and welded into a wye configuration. A threaded 1/4" pressure tap shall be welded into the upstream and downstream piping for connection of pressure gauges. An adjustable pressure relief valve shall be provided in the filter housing.

Filter Screen shall be 300 mesh stainless steel.

Filter Flush Valve shall be "ball" type made of brass.

Subsection 757.7.3 - Conversion Module:

Conversion Module "Data Industrial Model 1000" or equal shall be a microprocessor based flow monitor with LCD which will display the flow rate and which will fully interface with the controller and flow sensor and shall be capable of being calibrated in the field with the use of a front-mounted keyboard.. Install in accordance with manufacturer's instructions.

Include conversion module of same manufacturer as flow sensor as part of a complete equipment package.

Subsection 757.7.4 - Flow Sensor:

Flow Sensor assembly, "Data Industrial IR-200" or equal, shall be a six blade design with a proprietary, non-magnetic sensing mechanism. The sensor shall be supplied with a three conductor, shielded cable extending out through a conduit connection on top of the sensor. The sensor shall be mounted in a threaded brass pipe tee. The flow sensor shall have a maximum pressure range of 400 psi and a flow range of 0.2 - 20 feet / second. Install the flow sensor in accordance with the manufacturer's instructions and as indicated on the drawings.

Subsection 757.7.5 - Pressure Sensor:

Pressure Sensor, "Mercoid, Series DA" or equal, shall be operated by a brass Bourdon tube actuating a mercury switch and enclosed in a weather-resistant housing. Switch shall have deadband adjustable operating range from 5 - 50 psig. Switch shall have calibrated dial and two pointers indicating set and reset points. Switch shall have visible on / off indication. Set points shall be adjustable without removing switch cover or shutting down process. The pressure sensor shall be enclosed in a NEMA type enclosure, and shall be lockable with size as required. Install the pressure sensor according to the manufacturer's requirements and as indicated on the drawings.

Subsection 757.7.6 - Booster Pump:

Pump shall produce 120 gpm with 60 pounds suction psi boost to discharge pressure of 110 psi. Provide pump or equal as indicated on the Drawings. Install in accordance with manufacturer's instructions.

Subsection 757.7.7 Enclosure Box:

Enclosure Box for automatic controller shall be a NEMA 4, 12 gauge stainless steel, all welded enclosure. Size shall be minimum 36" wide by 18" deep by 48" high. Enclosure shall have a fully gasketed hinged door, three point dead bolt latch mechanism, handle that can accept a padlock, and integral mounting racks compatible with the scheduled controller, power supply and ancillary equipment. Enclosure box shall be Cross Brothers, La Max Enclosure, "Arizona Box" (with extra louvers) or equal.

SECTION 795 - LANDSCAPE MATERIAL (is modified to add):

Subsection 795.3 - Fertilizer:

Where fertilizer is furnished from bulk storage, the Contractor shall furnish a supplier's certification of analysis and weight. Fertilizer shall be a hard prill type fertilizer, which is uniform in composition, pelleted, dry and free flowing. Guaranteed useable analysis of fertilizer shall be as follows:

Ammoniacal nitrogen (N)	16.0%
Available phosphoric acid (P2O3)	8.0%
Water Soluble potash (K2O)	4.0%
Sulphur (S)	18.0%
Iron (Fe) (chelated)	1.5%
Maganese (MN) (chelated)	0.1%
Zinc (ZN) (chelated)	0.1%

Subsection 795.4 - Organic Soil Conditioners:

Mulch shall be 5% minimum nitrogen stabilized composted forest product, consisting of composted ground, shredded, or shavings of fir or pine bark. The mulch shall have a minimum pH of 7.0 and shall not exceed a pH of 7.5.

Subsection 795.5 - Chemical Soil Conditioner:

Gypsum shall be agricultural gypsum, composed of calcium sulfate. Gypsum shall be 90 percent pure, free of any toxic materials, and at least 95 percent by weight shall pass a 4-mesh sieve. Soil Sulfur: Soil Sulfur shall be grained agricultural sulphur containing 99.5% sulfur.

Subsection 795.8.2 - Tree Stakes:

Tree stakes shall be 2 inches minimum diameter, manufactured from lodge pole pine and shall be pressure treated with a copper sulphate preservative. Provide quantity of stakes as shown on the details.

Subsection 795.8.3 - Tie Wires:

Tree tie wires shall be double strand twisted 12 gauge galvanized steel wire, looped around tree trunk through a 12 inch length of 2 ply reinforced garden hose as shown in the drawings.

Subsection 795.8.4 - Decomposed Granite:

Stabilized decomposed granite shall be as specified in Section 314 of the Construction Special Provisions.

Subsection 795.8.5 - Water for Plantings:

Water used in the installation of plantings shall be clear and free from injurious oil, salt, acid, alkali, or any other toxic substances. It shall be the responsibility of the Contractor to make necessary arrangements for use of available water supplies.

SECTION 801: ELECTRICAL (Add this Section to the MAG Uniform Standard Specifications):

Subsection 801.1 - General:

The work under this section shall include all electrical work as shown on the plans.

Subsection 801.2 - Drawings:

The drawings are generally diagrammatic and indicate the manner, method and nature of the installation. The Specifications denote the style and quality of material and workmanship. Where a conflict exists between the Drawings and Specifications, promptly notify the Engineer. The Engineer will make the proper interpretation and his decision will be final.

Any items not mentioned in these specifications or not indicated on the plans but which are necessary for successful and efficient operation of the work shall be held to be implied and shall be furnished and installed as part of the contract.

Subsection 801.3 - Standard Material and Workmanship:

All materials shall be new and shall conform to UL Standards in every case where such a standard has been established and shall bear UL label. All work shall be performed in a workmanship manner in accordance with the best accepted standards and shall present a neat mechanical appearance when completed.

Ratings of all electrical equipment shall be in accordance with National Electrical Manufacturers Association. (NEMA).

Subsection 801.4 - Controller wiring:

Connect electrical panel as indicated on the drawings. Connection to control wiring shall be made within the pedestal or head of the controller. Electrical wiring shall be in rigid conduit from controller to panel as indicated on the drawings. The work under this section shall include all wiring to the panels or elsewhere as required, in order to complete the installation of the control system. Electrical panels shall have double row terminal strips and shall be series 2800 by Vernitron Corp., or equal.

Subsection 801.5 - Payment:

Payment for complete electrical system, in place and operational from A.P.S. power pole to irrigation station, including hook-up to automatic controller and booster pump shall be at the lump sum price established on the Bid Schedule for BID ITEM 801.

END

MARICOPA COUNTY
 MINORITY/WOMEN-OWNED BUSINESS OFFICE
 DIRECTORY OF CERTIFIED FIRMS (BY BUSINESS TYPE)

July 9, 1992

BUSINESS TYPE	FIRM CONTACT NAME / PHONE NUMBER	ADDRESS	M/WBE STATUS
DRAFTING SERVICE	CHANDLER DRAFTING SERVICE TRACY D. CHANDLER (602) 582-4892	20626 N. 4TH AVE. PHOENIX, AZ 85027	WBE
DRILLING, PILE DRIVING	INTRA-AMERICAN FOUNDATION & DRILLING CO. SALVADORE H. ALTAMIRANO (602) 256-2843	502 W. WATKINS RD. PHOENIX, AZ 85003	MBE
ELECTRICAL CONTRACTING	CEBALLOS ELECTRICAL CONTRACTING, INC. MIKE H. CEBALLOS (602) 846-5955	7118 W. SELLS DR. PHOENIX, AZ 85033	MBE
	ESTRELLA ELECTRICAL SERVICE BENNY A. FIGUEROA (602) 993-6961	3033 W. CARIBBEAN LN. PHOENIX, AZ 85023	MBE
ELECTRICAL CONTRACTOR	C-3 ENERGY CORP. MARIO CORRAL (602) 968-1515	1310 W. 23RD ST. TEMPE, AZ 85282	MBE
ELECTRICAL CONTRACTOR, COMMER & INDUSTR.	HERNANDEZ ELECTRICAL, INC. AUGUSTIN HERNANDEZ (602) 997-7271	101 W. HATCHER ROAD PHOENIX, AZ 85021	MBE
ELECTRICAL CONTRACTOR, COMMER/INDUSTR.	EXPERT ELECTRIC, INC. LARRY R. WRIGHT (602) 254-6741	1119 GRAND AVENUE PHOENIX, AZ 85007	MBE
ELECTRICAL ENGINEERING	JODDELL ASSOCIATES JOSEPH A. OGUNDIJI, P.E. (602) 949-890	6720 E. BELLEVIEW ST. SCOTTSDALE, AZ 85257	MBE
ELECTRICAL PARTS SUPPLIER	MARKOS! MARCY KOSTEWA (602) 252-5358	922 W. BUCHANAN PHOENIX, AZ 85007	WBE
EMPLOYMENT SERVICE	VRL ASSOCIATES VIVIAN LOPEZ (602) 938-3031	P.O. BOX 10295 GLENDALE, AZ 85318	WBE
EMPLOYMENT, TEMPORARY	TEMP ASSOCIATES, INC. OF PHOENIX JUDY BORDEN (602) 820-2200	1839 S ALMA SCHOOL ROAD #110 MESA, AZ 85210	WBE
ENGINEERING BRIDGES, TRANSPORTATION	ATHALYE CONSULTING ENGINEERS ASHOK G. ATHALYE (602) 940-0618	55 EAST YVONNE LN. TEMPE, AZ 85284	MBE
ENGINEERING GENERAL	INCA ENGINEERS, INC. SHIV BATRA (206) 625-1000	11120 N.E. 2ND STREET BELLVUE, WA 98004	MBE
ENGINEERING SERVICES	ALAGIA ENGINEERING GROUP, INC. JAY S. ALAGIA, P.E. (602) 264-1010	1010 E. MISSOURI AVE. PHOENIX, AZ 85014	MBE
ENGINEERING & CONSTRUCTION MANAGMENT	VALLES & MOON ELVIN W. MOON (213) 216-7639	8929 S. SEPULVEDA BOULEVARD, #203 LOS ANGELES, CA 90045	MBE
ENGINEERING & MANAGMENT CONSULTANT	SNI INTERNATIONAL RESOURCES, INC. LUPE CARBAJAL (602) 285-1331	4041 N. CENTRAL AVE., #1470 PHOENIX, AZ 85012	MBE
ENGINEERING, ELECTRICAL/MECHANICAL	NP ENGINEERING ANDREW PANOPIO (602) 265-1559	3831 N. 15TH AVE. PHOENIX, AZ 85015	MBE

MARICOPA COUNTY
 MINORITY/WOMEN-OWNED BUSINESS OFFICE
 DIRECTORY OF CERTIFIED FIRMS (BY BUSINESS TYPE)

July 9, 1992

BUSINESS TYPE	FIRM CONTACT NAME / PHONE NUMBER	ADDRESS	M/WBE STATUS
CONSTRUCTION, REMODEL HOMES, ETC.	ARIZONA BUILT RITE, LTD. AL GUTIERREZ (602) 877-1799	P.O. BOX 1584 AVONDALE, AZ 85323	MBE
CONSULTANT & COMPUTER SYSTEMS	HEALTH & HUMAN SERVICES SUPPORT GROUP, INC SUSAN J. FOX (602) 241-0320	1730 S. JENTILLY LANE SUITE D-103 TEMPE, AZ 85284	WBE
CONSULTANTS SURVEY, MAPPING, CIVIL	MOREA-HALL ENGINEERING, INC. CLAUDIA MOREA, P.E. L.S. (602) 246-896	1820 W. MARICOPA FREEWAY PHOENIX, AZ 85007	WBE
CONSULTANT-TECHNICAL	GIS SOUTHWEST B.J. RAVAL (602) 582-2325	1245 E. TOPEKA DR. PHOENIX, AZ 85024	MBE
CONSULTING SERVICES IN HUMAN RESOURCES	CHEETAH CONSULTING, INC. MARGARET R. TCHIDA (602) 921-3214	1234 W. 5TH STREET TEMPE, AZ 85281	WBE
CONSULTING - RESEARCH AND BUSINESS	UNITED MANAGEMENT SYSTEMS BERNARD STEWART (602) 263-0896	221 EAST INDIANLA, #216 PHOENIX, AZ 85012	MBE
CONTRACTORS BOOKS, NEWSPAPERS	CASA FENIX MERCHANDISING, INC. YOLANDA COLLAZOS KIZER (602) 943-3681	1033 E. JEFFERSON PHOENIX, AZ 85034	WBE
CONTRACTOR, RES./COMM.	SUNPINE CONSTRUCTION, INC. CHERYL SCHLOTMAN (602) 943-2461	P.O. BOX 1449C BCS 2 PHOENIX, AZ 85027	WBE
COPY EQUIPMENT SALES & SERVICE	CREATIVE OFFICE SYSTEMS STELLA M. BUELNA (602) 437-5333	4633 S. 36TH PLACE PHOENIX, AZ 85040	WBE
CORPORATE REAL ESTATE CONSULTANT	CASTILLO COMPANY, INC. EDUARDO A. CASTILLO (602) 231-9000	P.O. BOX 21087 PHOENIX, AZ 85036	MBE
DESIGN ENGINEER, ELECTRONIC COMPUTERS	VALTRONICS ENGINEERING & MANUFACTURING LORENZO J. VALENZUELA (602) 937-0373	6602 NORTH 58TH DRIVE GLENDALE, AZ 85301	MBE
DESIGN SERVICES, FLOOR COVERING	MI CASA BELLA SHERRY C. SENTGEORGE (602) 254-0870	602 E. MONROE #E3 PHOENIX, AZ 85004	WBE
DESIGN & PROCUREMENT IN INTERIOR DESIGN	J. LENDRUM & COMPANY JAMIE LENDRUM (602) 266-2100	3820 N. 3RD STREET PHOENIX, AZ 85012	WBE
DISABILITY CONSULTING	WORKABILITY LAURA BRIGANCE (505) 984-0292	1221 ST. FRANCIS DR. SANTA FE, NM 87501	WBE
DISTRIBUTOR OF FOOD PRODUCTS	NEW HORIZON ENTERPRISES RONALD M. NICHOLSON (602) 937-7732	8343 N. 58TH AVE. GLENDALE, AZ 85302	MBE
DISTRIBUTOR OF STEEL FASTENERS	FLORIDA THREADED PRODUCTS, INC. BETTE J. GROGAN (407) 299-8622	3060 CLEMSON RD. ORLANDO, FL 32808	WBE
DISTRIBUTOR OF PLAYING CARDS & GAMES	DAVIS DISTRIBUTORS, INC. CYNTHIA DAVIS (305) 558-1161	2450 WEST 82ND STREET #202 HIALEAH, FL 33016	WBE

MARICOPA COUNTY
 MINORITY/WOMEN-OWNED BUSINESS OFFICE
 DIRECTORY OF CERTIFIED FIRMS (BY BUSINESS TYPE)

July 9, 1992

BUSINESS TYPE	FIRM CONTACT NAME / PHONE NUMBER	ADDRESS	M/WBE STATUS
COMMUNITY RELATIONS SPECIALIST	PROJECT INFORMATION ASSOCIATES GARETH D. LEWIS (602) 241-1818	77 E. COLUMBUS AVE. #202 PHOENIX, AZ 85012	MBE
COMPTER SUPPORT SERVICES, ENG., ARCH	COLE FINANCIAL SERVICES JOSODA A. COLE (313) 962-7055	65 CADILLAC SQUARE, #2215 DETROIT, MI 48226	MBE
COMPUTER HARDWARE AND SOFTWARE SUPPLIER	SOLUTIONS TECHNOLOGY, INC. HAZEL POPE (602) 249-3399	2727 W. GLENDALE PHOENIX, AZ 85051	MBE
COMPUTER NETWORK DESIGN, MAINTENANCE	HIGH-TECH ASSOCIATES, INC. ARTHUR J. CRUZ (602) 293-9228	4625 S. WENDLER DR. #111 TEMPE, AZ 85282	MBE
COMPUTER PERIPHENAL DIST.	MEMORY WORLD SURJIT GHAI (602) 994-9191	1438 N. SCOTTSDALE RD. TEMPE, AZ 85281	MBE
COMPUTER SALES & LEASING	DATREX, INC. CHRISTINE H. FLAHERTY (602) 269-9785	3618 W. OSBORN ROAD PHOENIX, AZ 85019	WBE
COMPUTER SALES & SERVICE	TRANSOURCE COMPUTERS LEE TING (602) 997-8101	2033 W. NORTH LANE, #1B PHOENIX, AZ 85021	MBE
COMPUTER SUPPLIES	THE WATTERHOUSE CARLLYN JEAN FOY (602) 931-4051	4429 W. CARON DRIVE GLENDALE, AZ 85302	WBE
COMPUTER TRAINING	MICRO PROFESSIONALS, INC. NIKKI CAPETZ (602) 945-0992	7201 E. CAMELBACK RD. #315 SCOTTSDALE, AZ 85251	WBE
CONCRETE COMPANY	RAY-O-CONCRETE, INC RAY ORTEGA (602) 938-5853	22624 N. 83RD AVENUE PEORIA, AZ 85382	MBE
CONCRETE CONTRACTOR	L.R. CONTRERAS CONTRACTOR, INC. LORENZO CONTRERAS (602) 964-1666	2110 N. COUNTRY CLUB DR. MESA, AZ 85201	MBE
CONCRETE FLATWORK, CURBS, SIDEWALKS ETC.	EXPRESS CONCRETE ALEXANDER OROSCO (602) 276-7858	105 W. BUIST PHOENIX, AZ 85041	MBE
CONCRETE, FLATWORK, SHOTCRETE	LEWIS GROUT PUMPING HARRY DONALD LEWIS (602) 268-1860	4636 S. 7th STREET, APT #3 PHOENIX, AZ 85040	MBE
CONSTRUCTION MANAGEMENT	VALLEY WEST - C.E.M. CAROLYN M. DOTSON (602) 243-6576	2438 EAST CHIPMAN ROAD #2 PHOENIX, AZ 85040	MBE
CONSTRUCTION PROGRESS PHOTOGRAPHY	PAMELA ROBERTS PHOTOGRAPHY PAMELA ROBERTS LEVITT (716) 248-9100	1390 CLOVER STREET ROCHESTER, NY 14610	WBE
CONSTRUCTION, EARTHWORK, GENERAL	MILLER & ASSOCIATES, INC. ANNMARIE MILLER (602) 623-2949	7999 W. TANGERINE RD. MARANA, AZ 85653	MBE
CONSTRUCTION, PRE-CAST CONCRETE	STONE RIVER, INC. LOUIS HAMILTON (505) 281-9484	905 STATE ROAD 344 SANDIA PARK, NM 87047	MBE

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CIVIL ENGINEERING	ENGINEERING ALLIANCE JIT S. PEGANY (602) 954-8344	4120 NORTH 20TH STREET #B PHOENIX, AZ 85016	MBE
CIVIL ENGINEERING AND LAND SURVEYING	APA GEOTRACK CARMELO ACEVEDO (602) 265-9550	1555 E. GLENDALE PHOENIX, AZ 85020	MBE
CIVIL ENGINEERING SERVICES	COLLINS-PINA CONSULTING ENGINEERS, INC. JERRY A. COLLINS (602) 264-7505	4530 N. CENTRAL AVE. #4 PHOENIX, AZ 85012	MBE
CIVIL ENGINEERING & SURVEYING	ALPHA ENGINEERING DINKAR GANGWAL (602) 795-8600	3131 E. SECOND STREET TUCSON, AZ 85716	MBE
CIVIL ENGINEERING, LAND SURVEYOR	PROJECT ENGINEERING CONSULTANTS, LTD. LARRY MALDONADO (602) 484-7691	3130 N. 35TH AVE., STE. 1 PHOENIX, AZ 85017	MBE
CIVIL ENGINEERS	URBAN ENGINEERING, INC. FORREST L. METZ (602) 296-3232	4146 N. 12TH ST. PHOENIX, AZ 85014	MBE
CIVIL ENGINEERS, DESIGN, CONSTR. MGMT.	R S ENGINEERING ROBERT M. SUAREZ (602) 791-3933	595 SOUTH MEYER AVE. TUCSON, AZ 85701	MBE
CIVIL & ENVIRONMENTAL ENGINEERING	DAMON S. WILLIAMS ASSOCIATES DAMON S. WILLIAMS (602) 265-5514	645 E. MISSOURI AVE. # 107 PHOENIX, AZ 85012	MBE
CIVIL & STRUCTURAL ENGINEERING	BKS ENGINEERS, INC BAL K. SANAN, PH.D (602) 795-9905	2834 E. GRANT ROAD TUCSON, AZ 85716	MBE
CIVIL, HYDROLOGY & LAND SURVEYING	WOOD, PATEL & ASSOCIATES, INC. ASHOK C. PATEL (602) 957-3149	4150 N. 20TH ST., SUITE #130 PHOENIX, AZ 85016	MBE
CIVIL/STRUCTURAL ENGINEERING	WELLS ENGINEERS, INC. PAULA B. WELLS, P.E. (602) 230-2221	3737 N. 7TH ST. # 201 PHOENIX, AZ 85014	WBE
CIVIL/STRUCTURAL ENGINEERING SERVICES	A. K. ENGINEERING A. K. NARASIMHAN (602) 839-3747	936 W. MESETO MESA, AZ 85210	MBE
CLEANING SUPPLIES	DYNAMIC PROGRAM PLANNING, INC. THOMAS WILSON, III (602) 276-6550	518 E. SOUTHERN AVE. PHOENIX, AZ 85040	MBE
COLLECTION AGENCY	THREE IN ONE COLLECTION MARGARITA MORA (602) 955-4910	P.O. BOX 10343 PHOENIX, AZ 85064	MBE
COMMERCIAL FURNITURE REPAIR	MIST SYSTEMS LYDIA AVALOS (602) 759-0595	16422 SOUTH 46TH PLACE PHOENIX, AZ 85044	MBE
COMMUNICATION SKILLS CONSULTING	VALENTINE COMMUNICATION CAROL ANN VALENTINE (602) 967-2817	2607 S. FOREST TEMPE, AZ 85282	WBE
COMMUNICATIONS SPECILIST	PAT LYNN COMMUNICATIONS SERVICES PAT LYNN (602) 893-1006	9617 S. 45TH PLACE PHOENIX, AZ 85044	WBE

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ACCOUNTING - CERTIFIED PUBLIC	NANCY M GUY CPA NANCY M GUY, CPA (602) 998-1413	9832 N HAYDEN #203 SCOTTSDALE, AZ 85258	WBE
ACCOUNTING, WORD PROCESSING, DB MGMT.	S.C.S.A., INC. JULIE ROACHE (602) 996-0613	3420 E. SHEA BLVD., #266 PHOENIX, AZ 85028	WBE
ADVERTISING	LA CRESTA, INC. OLIVIA S. ESCOBAR (602) 458-6472	35 SCHOOL DR. NE SIERRA VISTA, AZ 85635	MBE
ADVERTISING AGENCY	MEDIA BUYING SERVICES INC. KATHY MUNSON (602) 996-2232	4545 E. SHEA BLVD. #125 PHOENIX, AZ 85028	WBE
ADVERTISING GRAPHIC DESIGN	LARKINS AND ASSOCIATES DEBORAH LARKINS (602) 254-9590	609 N. 5TH AVE PHOENIX, AZ 85003	WBE
ADVERTISING IN EL SOL NEWSPAPER	PREMIER COMMUNICATIONS RAY FLORES (602) 234-3464	4001 N. 3RD STREET #465 PHOENIX, AZ 85012	MBE
AGGREGATE & LANDSCAPE MATERIALS	FT. McDOWELL SAND & GRAVEL JOHN C. KIRK (602) 837-2358	P.O. BOX 17150 FOUNTAIN HILLS, AZ 85269	MBE
AIR PLACED CONCRETE	FISHER SHOTCRETE, INC. JANICE FISHER (602) 897-7824	13721 E. MORGAN DR. GILBERT, AZ 85234	WBE
ALL TYPES CIVIL CONSTRUCTION	NUEVA CONSTRUCTION RUBEN FEDERICO (602) 293-6693	3333 W. SUNSET ROAD TUCSON, AZ 85705	MBE
ALUMINUM, STEEL AND METALS - SUPPLIER	CAPITOL METALS COMPANY, INC. EILEEN HODESH (602) 275-4131	4131 E. WASHINGTON ST. PHOENIX, AZ 85034	WBE
ARCHAEOLOGICAL SURVEY, TESTING	ARCHAEOLOGICAL CONSULTING SERVICES, LTD MARGERIE GREEN, PH.D (602) 894-5477	P.O BOX 27294 TEMPE, AZ 85285	WBE
ARCHAEOLOGY/ENVIRONMENTAL CONSULTING	CULTURAL & ENVIRONMENTAL SYSTEMS MARY LOU HEUETT (602) 622-2782	P.O. BOX 2324 TUCSON, AZ 85702	WBE
ARCHITECT	ROBERT GOMEZ ARCHITECT, A.I.A. ROBERT GOMEZ (602) 263-0329	77 EAST WELDON SUITE 289 PHOENIX, AZ 85012	MBE
ARCHITECTURAL DESIGN	SALAZAR ASSOCIATES ARCHITECTS LTD. LUIS A. SALAZAR (602) 274-0846	2645 NORTH 7TH AVE. PHOENIX, AZ 85007	MBE
ARCHITECTURAL, FULL SERVICE	WYATT/RHODES ARCHITECTS, INC. BURKE WYATT (602) 956-8558	4524 N. 12TH ST. PHOENIX, AZ 85014	MBE
ART APPRAISER AND CONSULTANT	CORINNE CAIN LTD CORINNE CAIN (602) 279-2167	5726 NORTH TENTH STREET #6 PHOENIX, AZ 85010	WBE
ASBESTOS CONSULTANTS	T.J. WHITE'S ENVIRONMENTAL MANGT.CONSTL. T.J. WHITE (602) 990-8901	7502 E. MAIN ST., STE #1 SCOTTSDALE, AZ 85251	WBE

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ASPHALT PAVING, EXCAVATION & CHIP SEAL	A & S PAVING, INC. SAL PEDREGON (602) 622-6603	527 W. 29TH STREET TUCSON, AZ 85713	MBE
ASPHALT/OIL APPLICATION & TRANSPORT	CACTUS TRANSPORT, INC. J.R. DOMENY (602) 242-9983	P.O. BOX 11605 PHOENIX, AZ 85061	WBE
AUDIO/VISUAL RETAIL SALES	ENTERPRENEUR VENTURES RODERIC L. WEBB (602) 276-5516	1843 E. ALTA VISTA RD. PHOENIX, AZ 85040	MBE
AUDITS, PERFORMANCE & LOSS PREVENTION	CSE-CUSTOMER SATISFACTION EVALUATIONS SYLVIA F. TAKEUCHI (602) 870-0396	702B N. 11TH AVENUE PHOENIX, AZ 85021	WBE
AUTO BODY REPAIR & REFINISHING	TOM'S AUTO BODY, INC. TOM S. OCAND (602) 252-4134	1327 E. BUCKEYE RD PHOENIX, AZ 85034	MBE
AUTO UPHOLSTERY	LOPEZ AUTO TOPS ANNIE LOPEZ (602) 242-4096	5410 N. 27TH AVE. PHOENIX, AZ 85017	MBE
BLUEPRINT, PHOTOCOPYING, SUPPLIES	ASTRO BLUEPRINT & SUPPLY CO., INC. JOSEPH A. CASTILLO (602) 275-3601	2401 N. 24TH STREET PHOENIX, AZ 85008	MBE
BUILDING & MASONRY SUPPLIES	PREACH BUILDING SUPPLY PHILLIP PREACH (602) 944-4594	1601 W. HATCHER PHOENIX, AZ 85021	MBE
BUSINESS CONSULTANT, BUSINESS WRITING	ADVANCED BUSINESS SYSTEMS CHRISTINE DOWNING (602) 263-0252	4215 N. 16th STREET #7 PHOENIX, AZ 85016	MBE
CABINetry	LADY WOODRUFF CABINENTRY, INC. PABLO D. GARCIA (602) 237-4224	4812 S. 43RD AVE PHOENIX, AZ 85041	MBE
CAMERA READY ART, DESIGN & PRODUCE	MCCOMB & ASSOCIATES, INC. PATRICIA A. MCCOMB-STOWE (602) 248-925	4700 N. 12TH STREET SUITE 206 PHOENIX, AZ 85014	WBE
CHEMICAL & ENVIRONMENTAL ENGINEERING	GUTIERREZ/PALMENBERG GILBERT GUTIERREZ (602) 234-0696	2922 W. CLARENDON PHOENIX, AZ 85017	MBE
CIVIL AND ENVIRONMENTAL ENGINEERING	SIMONS, LI & ASSOCIATES INC. ROBERT GARRETSON (602) 491-1393	4600 S. MILL AVE SUITE 280 TEMPE, AZ 85282	MBE
CIVIL AND STRUCTURAL	SUNDRAM ENGINEERING SHAN SUNDARAM (602) 839-3445	833 WEST PORTOBELLO MESA, AZ 85210	MBE
CIVIL AND STRUCTURAL ENGINEER	UPROJECT ENGINEERING LARRY MALDANADO (602) 484-7691	3130 N. 35TH AVENUE SUITE #1 PHOENIX, AZ 85017	MBE
CIVIL AND STRUCTURAL ENGINEERS	ALPHA ENGINEERS GROUP, INC. PRAKASH V. LIMAYE (602) 954-0436	2701 E. CAMELBACK STE 100 PHOENIX, AZ 85016	MBE
CIVIL ENGINEER	BAY CITY ENGINEERS RUTH FRANKLIN (602) 788-55	5623 E. CORRINE DR. SCOTTSDALE, AZ 85254	WBE

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ENGINEERING, FULL SERVICE	KULKARNI ENGINEERING CO., INC. Y.V. KULKARNI (602) 242-0047	123 W. PINE VALLEY DRIVE PHOENIX, AZ 85023	MBE
ENGINEERING, ROAD DESIGN	STEVE CORRALES ENGINEERING CORP. STEVEN CORRALES, JR. (602) 622-2553	2221 E. BROADWAY BLVD., # 207 TUCSON, AZ 85719	MBE
ENVIRONMENTAL ASSESSMENTS, TECH. WRITING	PSM 2 JULIA E. ELLEGOOD (602) 277-7884	3030 N. CENTRAL AVE. #1017 PHOENIX, AZ 85012	WBE
ESCROW SERVICES	NETWORK ESCROW & TITLE AGENCY, INC. SUSAN M. BUDNIK (602) 951-7575	3225 N. CENTRAL AVE. #100 PHOENIX, AZ 85012	WBE
EXCAVATING GRADING	CAMINO DURO, INC. LUPE D. PRUETT (602) 963-8283	P.O. BOX 895 CHANDLER, AZ 85244	MBE
EXCAVATION, GRADING	DAV CONTRACTING, INC. DANIEL A. VILLA (602) 245-2121	8515 W. GLENROSA PHOENIX, AZ 85037	MBE
FENCES, GUARDRAILS, SIGNS-FURNISH/INSTALL	FIVE G INC. GAIL GRAY (602) 437-0201	3801 EAST SUPERIOR AVENUE PHOENIX, AZ 85040	WBE
FENCING GUARDRAIL CONTRACTING	FENCE ERECTORS, INC. CAROL ENRIQUEZ, (602) 252-1195	P.O. BOX 15857 PHOENIX, AZ 85060	MBE
FOOD DISTRIBUTOR & MANUFACTURE	VALLEY BEST FOODS DAVID R. ENCINAS (602) 934-6066	7740 N. 68TH AVE. GLENDALE, AZ 85303	MBE
FOOD SERVICE MANAGEMENT	VAMCOR, INC. VIRGINIA A. MAYER (602) 921-0413	2163 E. ASPEN DR. TEMPE, AZ 85282	WBE
FOOD SVC. CATERING, VENDING, JANITORIAL	STEWARD'S FOOD SERVICE JAMES STEWARD, SR. (602) 255-8424	2612 S. 46TH STREET PHOENIX, AZ 85034	MBE
FULL SERVICE ARCHITECTURAL FIRM	FOREMAN WENGER ARCHITECTS LISA FORMEMAN (602) 946-7070	3333 N. HAYDEN RD. SCOTTSDALE, AZ 85251	WBE
FULL SVC. VENDING, CATERING, CONCESSION	L/K SERVICES EDWARD L. KNOX (602) 957-3756	P.O. BOX 17882 PHOENIX, AZ 85011	MBE
GENERAL CONSTRUCTION	TAPPE WILLIAMS JANE F. WILLIAMS (602) 931-6680	5861 N. 55TH AVE #2A GLENDALE, AZ 85301	WBE
	ADRIAN & SONS CONSTRUCTION ADRIAN BARRAZA (602) 969-4252	1510 W. 5TH PL. MESA, AZ 85201	MBE
GENERAL CONTRACTING	MALCOM CONSTRUCTION RUDY MALDONADO (602) 243-1278	3029 E. SOUTHERN AVE PHOENIX, AZ 85040	MBE
	J-D DEVELOPMENT DAVID DAVIS (602) 895-8502	P.O. BOX 17 CHANDLER, AZ 85244	MBE

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GENERAL CONTRACTING CO.	VALCO CONSTRUCTION CO., INC. RAFAEL VALENZUELA JR. (602) 937-2042	6602 N. 58TH DR. GLENDALE, AZ 85301	MBE
GENERAL CONTRACTOR	CONSTRUCTORS SOUTHWEST, INC. GAIL TRUJILLO-THORNTON (602) 269-7628	4060 W. CLARENDON AVE. PHOENIX, AZ 85019	MBE
	SUN EAGLE CORPORATION MARTIN ALVAREZ (602) 961-0004	461 N. DEAN AVE, CHANDLER, AZ 85226	MBE
GENERAL CONTRACTOR HIGHWAY LARGE	JOE PEREZ CONSTRUCTION JOE S. PEREZ (602) 943-1768	P.O. BOX 1437 GILBERT, AZ 85234	MBE
GENERAL CONTRACTOR & SUBCONTRACTOR	SERRANO GENERAL ENGINEERING MARK SERRANO (602) 962-9088	535 W. IRON AVE. MESA, AZ 85210	MBE
GENERAL CONTRACTORS	BLUCOR CONTRACTING, INC. GORDON BLUTH (602) 835-9735	P.O. Box 4959 MESA, AZ 85211	MBE
GENERAL CONTRACTOR, BUILDING	SIMPSON GENERAL CONTRACTING MIKE SIMPSON (602) 268-2220	P.O. BOX 20785 PHOENIX, AZ 85036	MBE
GENERAL CONTRACTOR, BUILDINGS	JMS CONSTRUCTION CO. JOE SANCHEZ (602) 249-3494	6628 N. 16TH DRIVE PHOENIX, AZ 85015	MBE
GENERAL CONTRACTOR, MANAGEMENT & HIGHWAY	SWENGEL-RDBBINS INC. S.K. SWENGEL (602) 998-3950	7418 EAST HELM DRIVE SCOTTSDALE, AZ 85260	MBE
GENERAL CONTRACTOR, RESID/COMMERCIAL	MCINTYRE'S CONSTRUCTION INC. SUSAN B. MCINTYRE (602) 820-6907	2533 W. LOUGHLIN CHANDLER, AZ 85224	WBE
GENERAL ENGINEERING	JAYKIM ENGINEERS, INC. JAY C. KIM (602) 230-0093	1702 E. HIGHLAND AVE. #208 PHOENIX, AZ 85016	MBE
GENERAL ENGINEERING PAVING & GRADING	SIERRA GRADING & PAVING, CO. PETER R. RAMIREZ (602) 820-9578	5235 S. KYRENE #202 TEMPE, AZ 85283	MBE
GENERAL ENGINEERING, HYDROELECTRIC	SITE CONSTRUCTORS, INC. HOWARD S. HORN (916) 342-8545	2286 DROVILLE CHICO HWY. DURHAM, CA 95938	MBE
GEOGRAPHIC INFO. SYSTEMS, CAD SERVICES	CYTEC CORPORATION OSCAR DE LEON (805) 933-1922	744 E. MAIN SANTA PAULA, CA 93060	MBE
GEOMEMBRANE SYSTEMS INSTALLATION	FIELD LINING SERVICES, INC. PHILLIP V. RAMOS (602) 269-1255	P.O. BOX 14919 PHOENIX, AZ 85063	MBE
GEOTECHNICAL ENGINEERING	DESERT LAND ENGINEERING RICK GUTIERREZ (602) 957-1921	2543 E. HIGHLAND AVE. PHOENIX, AZ 85016	MBE
GEOTECHNICAL ENGINEERING, MATERIAL TESTS	GROUND TECHNOLOGY, INC. SAM MANSUKHANI, P.E. (602) 483-8710	7309 EAST EVANS SCOTTSDALE, AZ 85260	MBE

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GEOTECHNICAL ENGIN. & MATERIAL TEST	ATL TESTING LABORATORIES FRANK C. RIVERA (602) 241-1097	2922 WEST CLARENDON PHOENIX, AZ 85017	MBE
GEOTECHNICAL TESTING	ARIZONA STRUCTURAL INSPECTION, INC. JOHN C. SAVOIA (602) 273-6310	1835 E. 6TH ST., #23 TEMPE, AZ 85281	WBE
GEOTECH. ENGINEERING	MAA ENGINEERING CONSULTANTS FRED CHEN (213) 680-4000	201 S. SANTA FE AVE., #103 LOS ANGELES, CA 90012	MBE
GLASS, GLAZING	GLENDALE GLASS, INC. RAYMOND E. NUNEZ (602) 258-2256	5412 W. GLENDALE GLENDALE, AZ 85301	MBE
GLASS/GLAZING SALES SERVICE	BILLY'S GLASS WILLIAM CHVARIA (602) 268-8652	9240 S. 18TH AVE. PHOENIX, AZ 85041	MBE
GRADING AND PAVING	VAIL'S GRADING AND PAVING A. LORETTA VAIL (602) 899-1364	2302 WILLOW CREEK RD. PRESCOTT, AZ 86301	MBE
GRADING AND PAVING CONTRACTOR	INCA CONTRACTING CO. JOSE CASTILLO (602) 821-0715	95 N. ARIZONA PLACE SUITE 4 CHANDLER, AZ 85225	MBE
GRANITE AND MATERIAL SUPPLIER	ARIZONA'S QUALITY GRANITE DARLENE L. SANNER (602) 869-0635	7401 W. VILLARITA DRIVE GLENDALE, AZ 85308	WBE
GRAPHIC DESIGN AND PROJECT CONSULTING	JOAN WATERS GRAPHIC DESIGN & PRODUCTION JOAN WATERS (602) 952-0417	5525 E. THOMAS RD. #N-8 PHOENIX, AZ 85018	WBE
HARDWARE STORE, RETAIL	STEVE'S TRUE VALUE HARDWARE STEVE YEE (602) 955-9607	3919 E. INDIAN SCHOOL RD. PHOENIX, AZ 85018	MBE
HEAVY CONSTRUCTION GENERAL ENGINEERING	S.Y. CONSTRUCTION CO. SUE MARIE YOUNG (801) 756-8383	P.D. BOX 280 AMERICAN FORK, UT 84003	WBE
HEAVY EQUIPT, EXCAVATION, GRADING	CHARLIE TAYLOR CONSTRUCTION CO., INC CHARLIE TAYLOR (602) 257-9711	901 W. WATKINS RD. PHOENIX, AZ 85007	MBE
HERBICIDE APPLICATION, WEED CONTROL	EVERGREEN SPRAY SERVICE PAULA D. GROSS (602) 258-5041	279 SHADOW VALLEY RANCH ROAD PRESCOTT, AZ 86301	WBE
HIGHWAY CONSTRUCTION/HEAVY ENGINEERING	MAYA CONSTRUCTION COMPANY ROBERTO C. RUIZ (602) 294-9959	1200 E. AJO WAY SUITE #109 TUCSON, AZ 85713	MBW
HISPANIC ADVERTISING, MARKETING	TOPETE/STONEFIELD CONSULTANTS LIZ TOPETE STONEFIELD (602) 254-8780	325 WEST ENCANTO BOULEVARD PHOENIX, AZ 85003	WBE
HUMAN RESOURCE DEVELOPMENT	SPECTRA HUMAN RESOURCE CONCEPTS, INC. C. REGINALD DAVIS (602) 993-4767	10640 N. 28TH DR. #C-205 PHOENIX, AZ 85029	MBE
HUMAN SERVICES/PROGRAM CONSULTING	B.J. TATRO CONSULTING B.J. TATRO (602) 494-9848	3420 E. SHEA BLVD. SUITE 199 PHOENIX, AZ 85028	WBE

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HYDRAULIC ENGINEER	WEST CONSULTANTS, INC. DAVID T. WILLIAMS (619) 431-8113	2111 PALOMAR AIRPORT ROAD #180 CARLSBAD, CA 92009	MBE
INSTALLATION OF UNDERGROUND PIPE	SHIYA-STREPHANS CONTRACTING, CO. ROBERT STREPHANS (602) 997-6308	2505 W. BERYL AVE. # 200 PHOENIX, AZ 85021	MBE
INSTALLATION , FENCING & SIGNS	MID-STATE GUARDRAIL FENCE & SIGN, INC. URIEL CONTRERAS (602) 567-3311	P.O. BOX 2175 CAMPE VERDE, AZ 86322	MBE
INTERIOR ARCHITECTURE	MCCAETHY NORDBURG, LTD. JUDITH A. NORDBURG (602) 955-4499	3333 E. CAMELBACK RD. #180 PHOENIX, AZ 85018	WBE
INTERIOR CONSULTANT	FABRIC WORKS LAUREEN ABBOTT (602) 273-6662	1727 N. 32ND STREET PHOENIX, AZ 85008	WBE
INTERIOR DECORATING /WINDOW TREATMENT	ALL ABOUT DESIGN, INC. PAMELA MILLIKAN (602) 977-0471	6812 WEST CARON DRIVE PEORIA, AZ 85345	WBE
INTERIOR DESIGN	TECHNIQUE NANCY L. O'BRIEN (602) 843-4803	3434 W. GREENWAY ROAD #26-264 PHOENIX, AZ 85023	WBE
INTERIOR DESIGN & FLOOR COVERING	INTERIOR DESIGN AND SUPPLY JANET LA PLANTE (602) 863-1218	641 W. PORT AU PRINCE PHOENIX, AZ 85023	WBE
INTRASTATE DELIVERY OF GEN. FREIGHT	OJC TRANSFER & DELIVERY SERVICES, INC. JAMES L. WAGONER (602) 730-9076	P.O. BOX 56965 PHOENIX, AZ 85017	MBE
JANITORAL SERVICE	PATTERSON JANITORIAL SERVICE COMPANY RAYMOND PATTERSON (602) 944-0804	16220 N. 7TH ST. PHOENIX, AZ 85022	MBE
JANITORIAL SERVICES	WASHINGTON & SON MAINTENANCE CHARLES R WASHINGTON (602) 993-6251	11249 N 34TH AVE PHOENIX, AZ 85029	MBE
JANITORIAL SERVICES, HOSPITAL HOUSECLEAN	TELTARA, INC. MICHAEL CAMPBELL (602) 483-9411	14555 N. SCOTTSDALE RD. 3240 SCOTTSDALE, AZ 85254	MBE
JANITORIAL SUPPLIES	A-1 WIPING MATERIALS TOM HEROLD (602) 252-3334	313 E. BUCKEYE RD. PHOENIX, AZ 85004	MBE
JANITORIAL SUPPLIES & SERVICES	CROWN INTERNATIONAL TREVOR GRIFFITHS (602) 834-9136	2303 N. 44TH STREET #14-113 PHOENIX, AZ 85008	MBE
LAND RIGHTS, ACQUISITIONS	DIVERSIFIED R/W SERVICES JOANNE O. BOORSMA (602) 265-5540	444 W. CAMELBACK RD. #302 PHOENIX, AZ 85013	WBE
LAND SURVEYING	ALCOCCER LAND SURVEYORS RICHARD ALCOCCER (602) 979-9111	5239 W. MESCAL STREET GLENDALE, AZ 85304	MBE
LANDSCAPE ARCHITECT & Evron Consult	RECON CONSULTANTS, INC. LORI JONES WOODS (602) 325-9977	5099 E. GRANT RD. #301A TUCSON, AZ 85712	WBE

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LANDSCAPE ARCHITECTS	SAKATO & SAKATO LANDSCAPE ARCHITECTS GARY M. SAKATO (602) 258-7777	2828 N. CENTRAL AVE, SUITE 755 PHOENIX, AZ 85004	MBE
LANDSCAPE ARCHITECTURE	C.F. SHULER INC. CAROL F. SHULER (602) 483-0535	15020 N. HAYDEN RD, SUITE 204 SCOTTSDALE, AZ 85260	WBE
LANDSCAPE ARCHITECTURE & DESIGN	HARMONY & ASSOCIATES ROSINA G. HARMONY (602) 825-2711	64512 E. ROUNDROBIN LANE TUCSON, AZ 85737	MBE
LANDSCAPE ARCHITECTURE/PLANNING	LOGAN SIMPSON & DYE CARYN LOGAN HEAPS (602) 967-1343	398 SOUTH MILL AVE. #300 TEMPE, AZ 85281	WBE
LANDSCAPE MAINTENANCE/INSTALLATION	SOUTH LAWN DEVELOPERS WILL DAVIS II (602) 243-9273	8621 SOUTH 14TH PLACE PHOENIX, AZ 85040	MBE
LANDSCAPING & DESIGN	DESERT GREEN LANDSCAPING & DESIGN, INC. JAMES SHIEH (602) 961-1915	638 N. POPLAR COURT CHANDLER, AZ 85226	MBE
LAWN CARE SERVICES	MOD LAWN SERVICES MANUEL D. DOMINGUEZ (602) 937-7797	8334 N. 58TH AVE. GLENDALE, AZ 85302	MBE
LEGAL SERVICES	AMY S. FISHER, P.C. AMY S. FISHER (602) 395-9075	7301 N. 16TH ST. #103 PHOENIX, AZ 85020	WBE
MANAGEMENT CONSULTANT	ITS IMAGINEERING CORP. EARL W. DICKERSON (602) 458-1477	P.O. BOX 722 SIERRA VISTA, AZ 85636	MBE
MANAGEMENT CONSULTANT-FILM VIDEOD	FRYE, MULZAC THOMAS FRYE (602) 899-5475	2023 GUADALUPE, #11-198 MESA, AZ 85202	MBE
MANAGEMENT CONSULTANT	KOLBE CONCEPTS, INC. KATHY KOLBE (602) 840-9770	3421 N. 44TH STREET PHOENIX, AZ 85018	WBE
MANAGEMENT CONSULTING	RAHI CONSULTING LYNDA RAHI (602) 245-2811	4424 N. 53RD LANE #2 PHOENIX, AZ 85031	MBE
MANFT., INSTALL, FIBER OPTIC NETWORKS	FIBER SPECIALIST, INC. MITZI D. DOOLEY (602) 585-5069	5850 E. MORNING VISTA LN. CAVE CREEK, AZ 85331	WBE
MANHOLES -INSTALL PRECAST	PREACH MASONRY PHILLIP L. PREACH (602) 242-2007	1601 W. HATCHER PHOENIX, AZ 85021	MBE
MANUAL TRAFFIC MOVEMENT COUNTS	TRAFFIC COUNTING SERVICES AUDREY A. DRAPER (602) 990-1855	2739 N. SARATOGA TEMPE, AZ 85281	WBE
MANUFACTURE AND SALE OF SIGNS	ALL SIGN SYSTEMS TINA LOCKWOOD (602) 230-0614	4029 N. 31ST AVE. PHOENIX, AZ 85017	WBE
MANUFACTURE & INSTALL FABRIC AWNINGS	C & R AWNING NANCY MEDVED (602) 937-8740	7123 N. 59TH DR. GLENDALE, AZ 85301	WBE

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BUSINESS TYPE	FIRM CONTACT NAME / PHONE NUMBER	ADDRESS	M/WBE STATUS
MARKETING RESEARCH & ANALYSIS	MILLER MARKETING SUPPORT S. KIM MILLER (602) 496-0647	P.O. BOX 51022 PHOENIX, AZ 85076	WBE
MARKETING, PUBLIC RELATIONS	NJZ MARKETING ASSOCIATES NANCY JOHNSON-ZICATOOSE (602) 893-8684	P.O. BOX 51794 PHOENIX, AZ 85076	WBE
MARKETING/ADVERTISING, PUBLIC RELATIONS	MUNOZ Y ASOCIADOS JOE MUNOZ (602) 939-6401	8607 N. 59TH AVE # A-3 GLENDALE, AZ 85302	MBE
MASONRY CONTRACTING	F.G. MABANTE MASONRY, INC. PATRICIA H. MABANTE (602) 978-2886	4311 W. SANDRA CIRCLE GLENDALE, AZ 85308	MBE
MASONRY CONTRACTOR	JIM CELAYA & SONS MASONRY JIM CELAYA (602) 276-1930	638 W. CHIPMAN PHOENIX, AZ 85041	MBE
MASONRY CONTRACTORS	RIVERA MASONRY, INC. ALBERTO RIVERA (602) 252-3113	1704 WEST LINDEN PHOENIX, AZ 85007	MBE
MECHANICAL/HVAC	RAMIREZ MECHANICAL SYSTEMS, INC. CARLOS Y. RAMIREZ (602) 244-8994	3308 E. MADISON PHOENIX, AZ 85034	MBE
MEDICAL EQUIPMENT & SUPPLIES	NAVAJO MEDICAL EQUIPMENT & SUPPLY, INC. PAUL J. GEORGE (505) 368-5750	P.O. BOX 705 SHIPROCK, NM 87420	MBE
MEDICAL SERVICES	GALE STEINHAUSER, M.D. GALE STEINHAUSER (602) 256-5533	225 W. MADISON ST. PHOENIX, AZ 85003	WBE
	ANN LAFOND YOUNG M.D., P.C. ANN LAFOND YOUNG (602) 994-0322	4116 N. 65TH ST. SCOTTSDALE, AZ 85251	WBE
	FRANCISCO PENA, M.D. DR. FRANCISCO PENA, M.D. (602) 258-165	1407 S. 9TH AVE. PHOENIX, AZ 85007	MBE
MEDICAL SERVICES, DIAGNOSTIC RADIOLOGY	ARCADIA RADIOLOGY & BREAST CENTER, LTD. PC LORAIN JENNAS (602) 956-1995	3260 E. INDIAN SCHOOL RD. #B PHOENIX, AZ 85018	MBE
MEDICAL SERVICES, PEDIATRICS	EVE BLUM, M.D. DR. EVE BLUM, M.D. (602) 932-3600	150 N. 8TH STREET AVONDALE, AZ 85323	WBE
MEDICAL TEMPORARY PERSONNEL	TEMPORARY TECHS OF ARIZONA, INC. BARNET ISRAEL (602) 990-8629	3260 N. HAYDEN #201 SCOTTSDALE, AZ 85251	WBE
MEDICAL & PERSONAL CARE SUPPLIER	AGINCOURT JANET HEANEY (516) 538-8735	368 HAMILTON AVE WEST HEMPSTEAD, NY 11552	WBE
MEDICAL, PSYCHIATRIC SERVICES	ELIZABETH YAGER, M.D., P.C. DR. ELIZABETH YAGER (602) 267-5946	1917 E. LA VIEVE LN. TEMPE, AZ 85284	WBE
	SANDRA FIGUEROA, M.D. DR. SANDRA FIGUEROA (602) 371-8225	7219 N. 23RD PLACE PHOENIX, AZ 85020	WBE

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MEDICAL, PSYCHIATRIC SERVICES	REGINA LAWLESS, M.D. DR. REGINA LAWLESS (602) 954-7899	7119 E. FIRST AVE. SCOTTSDALE, AZ 85251	WBE
	HILDA S. AMATO, M.D. DR. HIDA S. AMATO (602) 840-5845	4519 E. PALO VERDE DR. PHOENIX, AZ 85018	WBE
	MARY ANN PICARDO, D.O. DR. MARY ANN PICARDO (602) 231-6909	P.O. BOX 39985 PHOENIX, AZ 85069	WBE
MEDICAL, PSYCHOLOGICAL SERVICES	PERLA GABUYA, M.D. DR. PERLA GABUYA (602) 276-0163	4420 S. 32ND STREET PHOENIX, AZ 85040	MBE
	NAEEM PATHAN, M.D. DR. NAEEM PATHAN (602) 935-2476	5862 E. KATHLEEN SCOTTSDALE, AZ 85254	MBE
MEDICAL/PSYCHIATRY	LEONARDO GARCIA-BUNUEL, M.D. DR. LEONARDO GARCIA-BUNUL (602) 256-53	437 E. MARIFOLD LN. TEMPE, AZ 85281	MBE
MESSENGER SERVICE	AERO MESSENGER, INC. KAREN NEES (602) 253-2229	2340 N.W. GRAND AVE., SUITE 2B PHOENIX, AZ 85009	WBE
METAL FABRICATION	HUBBS METAL FAB LAVERNE HUBBS (602) 968-3734	2123 S. PRIEST #220 TEMPE, AZ 85282	WBE
MICROCOMPUTER TRAINING & COURSE DEVELOP.	TRAINING A LA CARTE JANET CORBOSIERO (602) 224-9912	2111 E. HIGHLAND #250 PHOENIX, AZ 85016	WBE
MICROGRAPHIC PRODUCTS	MIPRO INTERNATIONAL, CORP. JANET ROTTENBERG (602) 991-3673	7360 E. ACOMA DR. #7 SCOTTSDALE, AZ 85260	WBE
MOMOGRAMMING & EMBROIDERY SERVICE	ARNOLD MONOGRAMMING RAY GARDEA (602) 252-9551	21 SOUTH 32ND STREET SUITE A PHOENIX, AZ 85034	MBE
MOVING & WAREHOUSING	VALDEZ TRANSFER, INC. FRANCES VALDEZ (602) 278-8574	422 SOUTH 33RD AVENUE PHOENIX, AZ 85009	MBE
NEWSPAPER	ARIZONA INFORMANT CHARLES CAMPPELL (602) 257-9300	1746 EAST MADISON STREET #2 PHOENIX, AZ 85034	MBE
NEWSPAPER ADVERT., PUBLISH., ART DESIGN	EL SOL DE ARIZONA RAY R. FLORES (602) 234-3464	4001 N. 3RD ST. #465 PHOENIX, AZ 85012	MBE
NEWSPAPER/MAGAZINE	CAMBIO! HISPANIC BILINGUAL MAGAZINE LUIS M. ORTIZ (602) 395-9111	P.O. BOX 33904 PHOENIX, AZ 85067	MBE
NURSING SERVICE FOR TEMP. STAFFING	SPECIALTY CARE NURSING SERVICE AGENCY ROBERT M. JARAMILLO (213) 653-1958	6404 WILSHIRE BLVD. 3720 LOS ANGELES, CA 90048	MBE
OFFICE FURNITURE SALES	D & R OFFICE FURNITURE LAURA RUZICH (602) 266-2731	249 E. INDIAN SCHOOL RD. PHOENIX, AZ 85012	MBE

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OFFICE FURNITURE SALES & SERVICE	VALDEZ OFFICE ENVIRONMENTS, INC. ERNEST J. SALAZAR (602) 437-0999	2850 S. 36TH. STREET PHOENIX, AZ 85034	MBE
OFFICE PRODUCTS & FURNITURE	SPIRAL OFFICE PRODUCTS REGGIE FOWLER (602) 992-7195	15681 N CAVE CREEK RD., ST. #9 PHOENIX, AZ 85040	MBE
OFFICE SUPPLIES	OASIS OFFICE PRODUCTS, INC. STEPHEN L. GLOVER (213) 938-6211	P.O. BOX 19069 LOS ANGELES, CA 90019	MBE
OFFSET PRINTING	METRO COPYING & PRINTING PAT EANES (602) 967-0959	1860 W. UNIVERSITY #108 TEMPE, AZ 85281	MBE
OFF-DUTY OFFICERS FOR TRAFFIC CONTROL	RIGHT CHOICE TOO PAULINE ROYBAL (602) 375-5323	13041 N. 35TH AVE. #C-3-111 PHOENIX, AZ 85029	WBE
PAINTING SERVICES	FLORES PAINTING, INC. JOE L. FLORES (602) 936-3560	9172 W. ADAMS TOLLESON, AZ 85253	MBE
PAINTING, COMMERCIAL/INDUSTRIAL	SERRANO PAINTING OSCAR SERRANO (602) 962-9088	535 W. IRON AVE., STE 108 MESA, AZ 85210	MBE
PAVEMENT MARKING	TRAFFIC MARKING & STRIPING, INC. KATHLEEN C. SWANSTON (602) 968-2504	P.O. BOX 1977 TEMPE, AZ 85280	WBE
PAVING AND GRADING CONSTRUCTION	PUEBLO GRANDE CONSTRUCTION CO. JOSEPH AVINA (602) 566-1469	8855 W. AVENIDA DEL SOL PEORIA, AZ 85382	MBE
PAVING & GRADING	GLENDALE PAVING CORP. FRANK LOZANO (602) 939-2215	5719 W. MCLELLAN GLENDALE, AZ 85301	MBE
PAVING & GRADING GEN. CONTRACTING	ARIZONA BITUMALS MIGUEL MIRANDA (602) 936-8708	8721 W. LEWIS AVE. PHOENIX, AZ 85037	MBE
PHARMACY RELIEF SERVICE (TEMP PHARMACIS)	MICHELLE MCCARVILLE (602) 952-8604	4424 E. OSBORN, STE. ONE PHOENIX, AZ 85018	WBE
PHOTOCOPIER, FAX, FURNITURE & SUPPLIES	CACTUS COPIER SUPPLIES LINDA THRASHER (602) 994-8624	14435 N. SCOTTSDALE RD. STE # 600 SCOTTSDALE, AZ 85254	WBE
PHOTOGRAPHIC LAB	CHROMA COPY VICKI PINA (602) 966-2828	1860 W. UNIVERSITY TEMPE, AZ 85281	MBE
PLUMBING SERVICE AND REMODELING	APACHE PLUMBING SERVICES PAUL A. GARCIA (602) 846-2117	6502 W. MEDLOCK DR. GLENDALE, AZ 85301	MBE
POLICE OFFICERS FOR TRAFFIC CONTROL	RIGHT CHOICE PAULINE ROYBAL (602) 375-5323	13041 N. 35TH AVE. #C-3 PHOENIX, AZ 85029	WBE
PRINTER, OFFSET, GRAPHICS	MOUNTAIN STATES PRINTING SUSAN BUSHMAKER (602) 269-3219	1408 N. 27TH LANE PHOENIX, AZ 85009	WBE

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PRINTING PRODUCTS -BLUE PRINTING	ACME BLUEPRINT & PHOTOCRAFT CO. INC. G. MICHAEL MCQUEEN (602) 254-6171	1425 N. FIRST STREET PHOENIX, AZ 85004	WBE
PRINTING & BINDING	MULTI-NATIONAL PRINTING PAUL BRANT (602) 274-4515	6009 N. 16TH ST. PHOENIX, AZ 85016	MBE
PRINTING - COMMERCIAL	K & M PRINTING NANCY KEGERRERIS (602) 926-0123	75 W. BASELINE RD. #A12 GILBERT, AZ 85234	WBE
PROFESSIONAL COUNSELING, CAREER WORKSHOP	PLATINUM CAREER SERVICES DEBORAH MARNELL (602) 998-9059	7418 E. HELM DR. # 131 SCOTTSDALE, AZ 85260	WBE
PROVIDE HEALTH CARE TO CORRECTIONAL FAC.	CORRECTIONAL HEALTHCARE SOLUTIONS WALTER P. LOMAX, JR. (215) 242-1819	8127 STENTON AVE. PHILADELPHIA, PA 19150	MBE
PROVIDING TEMPORARY & PERMANENT PERSNL.	TOP PERSONNEL, INC. FRAN SHERMAN (602) 263-9675	1300 E. MISSOURI, STE. C200 PHOENIX, AZ 85014	WBE
PSYCHOLOGICAL SERVICES	ZELDA HITTEL P.C. DR. ZELDA HITTEL (602) 955-3482	5249 N. 37TH PLACE PARADISE VALLEY, AZ 85253	WBE
	JANET MILLARD, PH.D. DR. JANET MILLARD (602) 730-6720	955 E. WATSON TEMPE, AZ 85283	WBE
	JEFFREY M. ESTRADA, PH.D. DR. JEFFREY M. ESTRADA (602) 954-5667	P.O. BOX 17564 PHOENIX, AZ 85011	MBE
PSYCOLOGICAL COUNSELING SERVICES	PSYCHSHIELD, INC. WILLY D. SUTTON, PhD. (213) 420-1221	5150 CANDLEWOOD ST. #14 LAKEWOOD, CA 90212	MBE
PUBLIC RELATIONS	SUSAN Z COMMUNICATIONS SUSAN ZELONZNICKI (602) 839-1300	4810 SOUTH BECK AVENUE TEMPE, AZ 85282	WBE
PUBLIC RELATIONS SERVICES	ARIZONA CONSTRUCTION SERVICES TERRI SMITH (602) 956-3940	4501 N. 22ND STREET PHOENIX, AZ 85016	WBE
PUBLIC RELATIONS, MARKETING	VILLICANA & ASSOCIATES REBECCA VILLICANA (602) 265-7350	716 E. CLAREMONT PHOENIX, AZ 85014	MBE
REAL ESTATE APPRAISAL & CONSULTATION	DENNIS LOPEZ & ASSOCIATES DENNIS L. LOPEZ (602) 838-7332	4703 S. LAKESHORE DRIVE SUITE 1 TEMPE, AZ 85282	MBE
REAL ESTATE BROKERAGE	PROPERTY DIMENSIONS, LTD. CATH HAIRE-WILKINSON (602) 241-1404	6520 N. 7TH STREET #185 PHOENIX, AZ 85014	WBE
REAL ESTATE BROKERAGE, PROPERTY MANAGE	ENTERPRISE 2000, INC. DANIEL VALENZUELA, PRES. (602) 254-180	809 N. FIFTH AVE PHOENIX, AZ 85003	MBE
REAL ESTATE DEVELOPMENT, PROPERTY MANGT.	ESPINOZA ENTERPRISES CORP. TOM ESPINOZA (602) 253-2233	1242 E. WASHINGTON, #201 PHOENIX, AZ 85034	MBE

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REAL ESTATE SERVICES	E.D. REAL ESTATE E. DARLENE GRIEGER (602) 964-4277	54 W. MAIN ST. #2 MESA, AZ 85201	WBE
REBAR PLACEMENT	SUNDANCE REBAR, INC. LEAH E. WINCHESTER (602) 926-3341	1520 W. WARNER RD. #106 BOX 127 GILBERT, AZ 85234	WBE
REBAR STEEL PLACEMENT	ENDO STEEL, INC. GARY L WERLINGER (602) 969-4571	P.O. BOX 30516 MESA, AZ 85275	MBE
RENTAL & SALES OF OXYGEN GAS & EQUIPMENT	APACHE OXY-MED, INC. ART CONTRERAS (602) 898-0715	646 W. BROADWAY, #402 MESA, AZ 85210	MBE
REPAIR & BUILD OVERHEAD CRANES	PHOENIX CRANE & HOIST, INC. YOLANDA MORENO (602) 252-1944	1401 S. 22ND AVE. PHOENIX, AZ 85009	MBE
SALES OF TELEPHONE EQUIPMENT	J.M.H. COMMUNICATIONS, INC. JOAN HOWARD (602) 966-7298	325 E. SOUTHERN AVE. #4 TEMPE, AZ 85282	WBE
SALES & SERVICE OF OUTDOOR POWER EQUIP.	EVERGREEN BIKE & LAWN EQUIPMENT PAT RITCHEY (602) 932-0060	880 E. VAN BUREN Suite #102 GOODYEAR, AZ 85338	WBE
SALES, DESIGN OF SECURITY SYSTEMS	CENTRON SECURITY SYSTEMS KAREN KING (908) 968-1143	P.O. BOX 4322 DUNELLEN, NJ 8812	WBE
SHARPEN & SALE OF SAW BLADES	JERRY'S SHARP SHOP GERADINE P. KUNZ (602) 386-6372	209 E. JACKSON AVE. BUCKEYE, AZ 85326	WBE
SIGNAGE PRODUCTS	TENCO CAROL THOMPSON (602) 277-4713	1702 W. CAMELBACK #284 PHOENIX, AZ 85015	WBE
SIGNS, FRAMES, SCREENPRINTING	SIGN CITY DEBRA J. HEIDRICH (602) 881-8443	2727 E. GRANT RD. TUCSON, AZ 85716	WBE
SILKSCREEN PRINTING	STEVENS DECAL COMPANY BETH SOPKO (602) 269-7758	3336 W. McDOWELL RD. PHOENIX, AZ 85009	WBE
STORYTELLER	PAT MAHIN, MASTER STORYTELLER PATRICIA MAHIN (602) 837-8396	15705 GRASSLAND DRIVE FOUNTAIN HILLS, AZ 85268	WBE
SUPPLIER OF INDUSTRIAL EQUIPMENT	INDUSTRIAL SALES & SERVICE, CO. JOANNE P. FEEMAN (702) 456-5357	12 SUNSET WAY #B-206 HENDERSON, NV 89014	WBE
SUPPLIER OF NATIVE SEEDS	WILD SEED, INC. RITA JO ANTHONY (602) 345-0669	2073 EAST ASU CIRCLE TEMPE, AZ 85284	WBE
SURVEYING, AERIAL CONTROL	VALCO SURVEYING CORP. VALENTINE M. PADILLA (602) 990-2412	6426 E. VIRGINIA AVENUE SCOTTSDALE, AZ 85257	MBE
SURVEYING; CIVIL, STRUCTURAL ENGINEERING	LOUIS C. WARNER & COMPANY LOUIS C. WARNER (602) 990-3008	4422 N. CIVIC CENTER PLAZA #104 SCOTTSDALE, AZ 85251	MBE

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SWEEPING - STREETS & PARKING LOTS	B & B POWER SWEEPING BILLY J. BRYANT (602) 899-1442	P.O. BOX 788 CHANDLER, AZ 85224	MBE
TELECOMMUNICATIONS, ELETRICAL EQUIP.	VASCOM COMMUNICATION SYSTEMS, INC. JERRY J. VASQUEZ (602) 892-8831	P.O. BOX 10941 SCOTTSDALE, AZ 85271	MBE
TELEPHONES, VOICE, FAX - SALES & SERVICE	COMMUNICATIONS WORLD OF PHX EAST JOAN HOWARD (602) 968-4960	325 E. SOUTHERN AVE SUITE 2 TEMPE, AZ 85282	WBE
TEMP. MEDICAL/NURSING SERVICES	HEALTH FORCE MARY HILDEBRANDT (602) 266-9971	4811 N. 7TH ST. #A-3 PHOENIX, AZ 85014	WBE
TRAFFIC CONTROL- GUARD RAILS & SIGNS	ARIZONA HIGHWAY SAFETY SPECIALISTS, INC. KAREN F. THOMPSON (602) 776-0204	3260 TOWER DRIVE PRESCOTT, AZ 86301	WBE
TRAFFIC SIGNAL INSTALLATION	DCL COMPANY, INC. FRED B. DeLOERA (602) 841-0304	3531 W. GLENDALE AVE #368 PHOENIX, AZ 85051	MBE
TRAINING AND MANAGEMENT CONSULTING	VICKI ROMERO & ASSOCIATES, INC. VICKI ROMERO (602) 483-8722	P. O. Box 5167 SCOTTSDALE, AZ 85261	WBE
TRANSPORTATION PLANNING	WESLIN CONSULTING SERVICES LINDA FRYSZTACKI (206) 646-0933	2241 95TH AVENUE N.E. BELLEVUE, WA 98004	WBE
TRAVEL AGENCY, FULL SERVICE	MOON VALLEY TRAVEL SERVICE, INC DEBRA L MARTIN (602) 866-1950	13240 N. 7TH ST E-2 PHOENIX, AZ 85022	WBE
TRAVEL SERVICE	NATIVE AMERICAN TRAVEL SERVICE TANDY C. YOUNG (602) 945-0771	4130 N. GOLDWATER BLVD. #114 SCOTTSDALE, AZ 85251	MBE
TRUCKING	EVELYN DUGGER TRUCKING EVELYN DUGGER (602) 646-9326	1794 RIO MESA TRAIL COTTONWOOD , AZ 86326	WBE
TRUCKING CONSTRUCTION HAULING	GRAVEL EXPRESS, INC. DARCY ELY (602) 294-1039	9326 S. NOGALES HWY. TUCSON, AZ 85706	WBE
TRUCKING & WRECKING	RANDY DUTCH ENTERPRISES INC. SOPHIE CROUCH (602) 899-1942	39372 N. PRINCE AVENUE QUEEN CREEK, AZ 85242	WBE
TUNNELING, JACKING & BORING	AMERICAN UNDERGROUND CONSTRUCTION SHERILL HELMS GOSNELL (714) 371-0049	3010 RIVER ROAD CORONA, CA 91720	WBE
TYPESETTING, LAYOUT & DESIGN	DUOTYPE SERVICES ROSANNE ARMIJO (602) 222-9494	100 WEST CAMELBACK RD. #104 PHOENIX, AZ 85013	MBE
TYPING, WORD PROCESSING, REPORT PREP.	MACWORD PRO DEBBIE N. CLIFFORD (602) 844-1648	816 N. STANDAGE MESA, AZ 85201	WBE
UNDERGROUND UTILITIES, CONTRACTOR	BANNER CONSTRUCTION COMPANY, INC. RUTH G. JUAREZ (602) 936-1931	6805 W. VAN BUREN PHOENIX, AZ 85043	MBE

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URBAN & LAND PLANNING, CIVIL ENGINEERING	DAVA & ASSOCIATES, INC. DAVA Z. HOFFMAN (602) 778-7587	310 E. UNION STREET PRESCOTT, AZ 86303	WBE
WELDING CONTRACTOR	MORENO WELDING DANIEL MORENO (602) 276-9508	P.O. BOX 8096E PHOENIX, AZ 85040	MBE
WELDING SUPPLIES & GASES	TRI-M WELDING SUPPLY CORP., ACC BARBRA A. MARTIN (602) 435-2622	P.O. BOX 14176 PHOENIX, AZ 85063	WBE
WHOLESALE DISTRIBUTOR OF MECH.FASTENERS	SOUTHWEST FASTENER DISTRIBUTION CO. CATHERINE E. FILIPPONE (602) 272-2658	4035 W. VAN BUREN PHOENIX, AZ 85009	WBE
WHOLESALE SOCKET CAP SCREWS	MAR-BRO MFG., INC. FRED MARTINEZ (602) 278-8197	5717 W. WASHINGTON PHOENIX, AZ 85043	MBE
WINDOW COVERINGS	BLIND IDEAS TAMARA L SNIDER (602) 581-9613	903 E. EBCUDA DR. PHOENIX, AZ 85024	WBE
WORD PROCESSING SUPPLIES	CASCADE BUSINESS SUPPLY MEL MEEKS (602) 897-2431	999 E. BASELINE #1204 TEMPE, AZ 85283	MBE
WRITING, PRODUCING, DIRECTING FOR FILM	WORD PAINTING LAURIE FAGEN (602) 893-6545	10621 S. 46TH ST. PHOENIX, AZ 85044	WBE