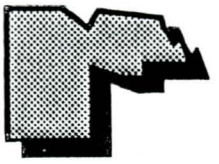
SPECIAL PROVISIONS
for the
CACTUS ROAD STORM DRAIN
(67th Avenue to the Agua Fria Freeway)

Prepared for the
FLOOD CONTROL DISTRICT of Maricopa County



- CITY of PEORIA
- CITY of GLENDALE

March 1993

A Member of the Stanley Technology Group
SEC ENGINEERING COMPANY

CACTUS ROAD STORM DRAIN
BID PROPOSAL

				CONTRACTOR'S NAME	
PAY ITEM	ITEM	UNIT	BID QNTY	UNIT PRICE	AMOUNT
108-1	PUBLIC INFORMATION NOTICE & CONSTRUCTION SIGN	LS	1		
220-1	RIP RAP PROTECTION FOR 28"X20" ARCH CMP	CY	21		
310-1	12" AGGREGATE BASE COURSE	TONS	5,846		
313-1	2-1/2" (C 3/4") AC PAVEMENT BASE COURSE	TONS	1,039		
313-2	C 3/4" AC PAVEMENT THICKENED EDGE	TONS	70		
315-1	1- 1/2" (D 1/2") AC PAVEMENT SURFACE COURSE	TONS	624		
340-1	REPLACE CONCRETE CURB AND GUTTER	LF	1,357		
340-2	REPLACE CONCRETE SIDEWALK	SF	5,150		
350-1	MISCELLANEOUS REMOVALS	LS	1		
350-2	REMOVE CONCRETE CURB & GUTTER	LF	1,357		
350-3	REMOVE CONCRETE SIDEWALK	SF	5,150		
350-4	REMOVE SURVEY MARKERS	EA	6		
401-1	TRAFFIC CONTROL DEVICES	LS	1		
401-2	OFF-DUTY POLICE OFFICER	HR	500		
405-1	REPLACE SURVEY MARKERS	EA	7		
505-1	STRUCTURAL CONCRETE	CY	100		
505-2	CONCRETE CB*, M-1, L=3', MAG STA. DET. P-1569	EA	3		
505-3	CONCRETE CB*, M-1, L=6', MAG STA. DET. P-1569	EA	10		
505-4	CONCRETE CB*, M-1, L=10', MAG STA. DET. P-1569	EA	36		
505-5	CONCRETE CB*, M-1, L=17', MAG STA. DET. P-1569	EA	6		
505-6	CONCRETE CB*, M-2, L=10', MAG STA. DET. P-1569	EA	3		
505-7	CONCRETE CB*, M-2, L=17, MAG STA. DET. P-1569	EA	7		
505-8	CONCRETE CB*, TYPE N, SINGLE MAG STA. DET. P-1570	EA	15		
505-9	CONCRETE CB*, TYPE N, DOUBLE MAG STA. DET. P-1570	EA	9		
505-10	CONCRETE CB*, TYPE N, TRIPLE MAG STA. DET. P-1570	EA	4		
505-11	CONCRETE HEADWALLS	CY	6		
610-1	VERTICAL REALIGNMENT OF WATER MAINS, CONTINGENT ITEM	EA	11		
610-2	WATERLINE ENCASEMENTS**	EA	34		
610-3	REMOVE 12-INCH DIAMETER DIP	LF	169		
610-4	12-INCH DIAMETER FITTING AND VALVE REMOVALS	LS	1		
610-5	12-INCH DIAMETER DIP	LF	151		
610-6	FIRE HYDRANT RELOCATION	EA	1		
615-1	8" VCP - SEWER	LF	34		
615-2	SEWER MANHOLES	EA	3		
615-3	18" PVC - SEWER PIPE	LF	314		
618-1	24-INCH DIAMETER RCP STORM DRAIN PIPE	LF	60		
618-2	30-INCH DIAMETER RCP STORM DRAIN PIPE	LF	106		
618-3	36-INCH DIAMETER RCP STORM DRAIN PIPE	LF	206		
618-4	42-INCH DIAMETER RCP STORM DRAIN PIPE	LF	76		
618-5	60-INCH DIAMETER RCP STORM DRAIN PIPE	LF	84		
618-6	66-INCH DIAMETER RCP STORM DRAIN PIPE	LF	162		
618-7	72-INCH DIAMETER RCP STORM DRAIN PIPE	LF	24		
618-8	78-INCH DIAMETER RCP STORM DRAIN PIPE	LF	2,644		
618-9	84-INCH DIAMETER RCP STORM DRAIN PIPE	LF	2,646		
618-10	108-INCH DIAMETER RCP STORM DRAIN PIPE	LF	2,663		
618-11	114-INCH DIAMETER RCP STORM DRAIN PIPE	LF	2,657		
618-12	120-INCH DIAMETER RCP STORM DRAIN PIPE	LF	6,371		
618-13	15-INCH DIAMETER RCP CATCHBASIN CONNECTOR PIPE	LF	1,980		
618-14	18-INCH DIAMETER RCP CATCHBASIN CONNECTOR PIPE	LF	116		
618-15	24-INCH DIAMETER RCP CATCHBASIN CONNECTOR PIPE	LF	582		
618-16	30-INCH DIAMETER RCP CATCHBASIN CONNECTOR PIPE	LF	21		
618-17	120"X120"X15" TEE	EA	10		
618-18	120"X120"X24" TEE	EA	4		

CACTUS ROAD STORM DRAIN
BID PROPOSAL

				CONTRACTOR'S NAME	
PAY ITEM	ITEM	UNIT	BID QNTY	UNIT PRICE	AMOUNT
618-19	120"X120"X30" TEE	EA	1		
618-20	120"X120"X36" TEE	EA	1		
618-21	114"X114"X15" TEE	EA	4		
618-22	114"X114"X24" TEE	EA	1		
618-23	114"X114"36" TEE	EA	1		
618-24	108"X108"X15" TEE	EA	2		
618-25	84"X84"X15" TEE	EA	6		
618-26	84"X84"X24" TEE	EA	3		
618-27	84"X84"X36 TEE	EA	1		
618-28	66"X66"X15" TEE	EA	1		
618-29	120"X120"X15"X15" CROSS	EA	5		
618-30	120"X120"X24"X15" CROSS	EA	2		
618-31	114"X114"X15"X15" CROSS	EA	2		
618-32	114"X114"X24"X15" CROSS	EA	1		
618-33	108"X108"X15"X15" CROSS	EA	4		
618-34	84"X84"X15"X15" CROSS	EA	4		
618-35	78"X78"X15"X15" CROSS	EA	6		
618-36	60"X60"X15"X15" CROSS	EA	1		
618-37	108"X108"X42" WYE	EA	1		
618-38	120"X114" REDUCER	EA	1		
618-39	108"X84" REDUCER	EA	1		
618-40	72"X66" REDUCER	EA	2		
618-41	24-INCH PIPE PLUG, MAG STD. DET. 427	EA	1		
618-42	30-INCH PIPE PLUG, MAG STD. DET. 427	EA	2		
618-43	36-INCH PIPE PLUG, MAG STD. DET. 427	EA	1		
618-44	42-INCH PIPE PLUG, MAG STD. DET. 427	EA	1		
618-45	60-INCH PIPE PLUG, MAG STD. DET. 427	EA	1		
618-46	66-INCH PIPE PLUG, MAG STD. DET. 427	EA	2		
618-47	PERMANENT PIPE SUPPORTS, MAG STD. DET. 403	EA	51		
618-47(a)	PERMANENT PIPE SUPPORTS, MAG STD. DET. 403**	EA	13		
621-1	28"X20" ARCH CMP	LF	180		
621-2	END SECTION FOR 28"X20" ARCH CMP	EA	12		
625-1	STORM DRAIN MANHOLE, MAG STD. DET. 522 AND DETAIL "A"	EA	16		
625-2	STORM DRAIN MANHOLE, MAG STD. DET. P-1520 AND 522	EA	6		
625-3	STORM DRAIN MANHOLE, MAG STD. DET. P-1560 AND 522	EA	8		
TOTAL BASE BID					

* CONCRETE CB = CONCRETE CATCHBASIN
**IF REQUIRED BY ENGINEER

CACTUS ROAD STORM DRAIN
OPINION OF PROBABLE CONSTRUCTION COST
DATE: MARCH 1993
SFC PROJECT NO. 35902.00

				ENGINEER'S ESTIMATE	
PAY ITEM	ITEM	UNIT	BID QNTY	UNIT PRICE	AMOUNT
108-1	PUBLIC INFORMATION NOTICE & CONSTRUCTION SIGN	LS	1	$2,300.00	$2,300.00
220-1	RIP RAP PROTECTION FOR 28"X20" ARCH CMP	CY	21	$11.50	$241.50
310-1	12" AGGREGATE BASE COURSE	TONS	5,846	$9.20	$53,783.20
313-1	2-1/2" (C 3/4") AC PAVEMENT BASE COURSE	TONS	1,039	$23.58	$24,494.43
313-2	C 3/4" AC PAVEMENT THICKENED EDGE	TONS	70	$23.58	$1,650.25
315-1	1- 1/2" (D 1/2") AC PAVEMENT SURFACE COURSE	TONS	624	$26.45	$16,504.80
340-1	REPLACE CONCRETE CURB AND GUTTER	LF	1,357	$1.67	$2,266.19
340-2	REPLACE CONCRETE SIDEWALK	SF	5,150	$0.79	$4,068.50
350-1	MISCELLANEOUS REMOVALS	LS	1	$2,300.00	$2,300.00
350-2	REMOVE CONCRETE CURB & GUTTER	LF	1,357	$0.75	$1,017.75
350-3	REMOVE CONCRETE SIDEWALK	SF	5,150	$0.30	$1,545.00
350-4	REMOVE SURVEY MARKERS	EA	6	$75.00	$450.00
401-1	TRAFFIC CONTROL DEVICES	LS	1	$63,250.00	$63,250.00
401-2	OFF-DUTY POLICE OFFICER	HR	500	$25.30	$12,650.00
405-1	REPLACE SURVEY MARKERS	EA	7	$212.50	$1,487.50
505-1	STRUCTURAL CONCRETE	CY	100	$920.00	$92,000.00
505-2	CONCRETE CB*, M-1, L=3', MAG STA. DET. P-1569	EA	3	$1,509.95	$4,529.85
505-3	CONCRETE CB*, M-1, L=6', MAG STA. DET. P-1569	EA	10	$1,811.25	$18,112.50
505-4	CONCRETE CB*, M-1, L=10', MAG STA. DET. P-1569	EA	36	$2,137.85	$76,962.60
505-5	CONCRETE CB*, M-1, L=17', MAG STA. DET. P-1569	EA	6	$2,687.55	$16,125.30
505-6	CONCRETE CB*, M-2, L=10', MAG STA. DET. P-1569	EA	3	$2,801.40	$8,404.20
505-7	CONCRETE CB*, M-2, L=17, MAG STA. DET. P-1569	EA	7	$3,544.30	$24,810.10
505-8	CONCRETE CB*, TYPE N, SINGLE MAG STA. DET. P-1570	EA	15	$1,359.30	$20,389.50
505-9	CONCRETE CB*, TYPE N, DOUBLE MAG STA. DET. P-1570	EA	9	$2,366.70	$21,300.30
505-10	CONCRETE CB*, TYPE N, TRIPLE MAG STA. DET. P-1570	EA	4	$2,898.00	$11,592.00
505-11	CONCRETE HEADWALLS	CY	6	$425.50	$2,340.25
610-1	VERTICAL REALIGNMENT OF WATER MAINS, CONTINGENT ITEM	EA	11	$1,725.00	$18,975.00
610-2	WATERLINE ENCASEMENTS**	EA	34	$759.00	$25,806.00
610-3	REMOVE 12-INCH DIAMETER DIP	LF	169	$11.50	$1,943.50
610-4	12-INCH DIAMETER FITTING AND VALVE REMOVALS	LS	1	$2,300.00	$2,300.00
610-5	12-INCH DIAMETER DIP	LF	151	$32.20	$4,862.20
610-6	FIRE HYDRANT RELOCATION	EA	1	$1,069.50	$1,069.50
615-1	8" VCP - SEWER	LF	34	$92.00	$3,128.00
615-2	SEWER MANHOLES	EA	3	$2,242.50	$6,727.50
615-3	18" PVC - SEWER PIPE	LF	314	$46.00	$14,444.00
618-1	24-INCH DIAMETER RCP STORM DRAIN PIPE	LF	60	$195.50	$11,730.00
618-2	30-INCH DIAMETER RCP STORM DRAIN PIPE	LF	106	$202.40	$21,454.40
618-3	36-INCH DIAMETER RCP STORM DRAIN PIPE	LF	206	$209.30	$43,115.80
618-4	42-INCH DIAMETER RCP STORM DRAIN PIPE	LF	76	$216.20	$16,431.20
618-5	60-INCH DIAMETER RCP STORM DRAIN PIPE	LF	84	$236.90	$19,899.60
618-6	66-INCH DIAMETER RCP STORM DRAIN PIPE	LF	162	$243.80	$39,495.60
618-7	72-INCH DIAMETER RCP STORM DRAIN PIPE	LF	24	$273.70	$6,568.80
618-8	78-INCH DIAMETER RCP STORM DRAIN PIPE	LF	2,644	$302.45	$799,677.80
618-9	84-INCH DIAMETER RCP STORM DRAIN PIPE	LF	2,646	$307.05	$812,454.30
618-10	108-INCH DIAMETER RCP STORM DRAIN PIPE	LF	2,663	$393.30	$1,047,357.90
618-11	114-INCH DIAMETER RCP STORM DRAIN PIPE	LF	2,657	$404.80	$1,075,553.60
618-12	120-INCH DIAMETER RCP STORM DRAIN PIPE	LF	6,371	$578.12	$3,683,202.52
618-13	15-INCH DIAMETER RCP CATCHBASIN CONNECTOR PIPE	LF	1,980	$65.55	$129,789.00
618-14	18-INCH DIAMETER RCP CATCHBASIN CONNECTOR PIPE	LF	116	$70.15	$8,137.40
618-15	24-INCH DIAMETER RCP CATCHBASIN CONNECTOR PIPE	LF	582	$75.90	$44,173.80
618-16	30-INCH DIAMETER RCP CATCHBASIN CONNECTOR PIPE	LF	21	$97.75	$2,052.75
618-17	120"X120"X15" TEE	EA	10	$4,233.15	$42,331.50
618-18	120"X120"X24" TEE	EA	4	$4,233.15	$16,932.60
618-19	120"X120"X30" TEE	EA	1	$4,549.40	$4,549.40
618-20	120"X120"X36" TEE	EA	1	$4,750.65	$4,750.65
618-21	114"X114"X15" TEE	EA	4	$4,136.55	$16,546.20
618-22	114"X114"X24" TEE	EA	1	$4,136.55	$4,136.55
618-23	114"X114"36" TEE	EA	1	$4,654.05	$4,654.05
618-24	108"X108"X15" TEE	EA	2	$3,964.05	$7,928.10
618-25	84"X84"X15" TEE	EA	6	$2,963.55	$17,781.30
618-26	84"X84"X24" TEE	EA	3	$2,963.55	$8,890.65
618-27	84"X84"X36 TEE	EA	1	$3,481.05	$3,481.05
618-28	66"X66"X15" TEE	EA	1	$2,204.55	$2,204.55
618-29	120"X120"X15"X15" CROSS	EA	5	$5,526.90	$27,634.50
618-30	120"X120"X24"X15" CROSS	EA	2	$5,526.90	$11,053.80

618-31	114"X114"X15"X15" CROSS	EA	2	$5,430.30	$10,860.60
618-32	114"X114"X24"X15" CROSS	EA	1	$5,430.30	$5,430.30
618-33	108"X108"X15"X15" CROSS	EA	4	$5,292.30	$21,169.20
618-34	84"X84"X15"X15" CROSS	EA	4	$4,257.30	$17,029.20
618-35	78"X78"X15"X15" CROSS	EA	6	$4,202.10	$25,212.60
618-36	60"X60"X15"X15" CROSS	EA	1	$2,691.00	$2,691.00
618-37	108"X108"X42" WYE	EA	1	$4,429.80	$4,429.80
618-38	120"X114" REDUCER	EA	1	$4,600.00	$4,600.00
618-39	108"X84" REDUCER	EA	1	$4,600.00	$4,600.00
618-40	72"X66" REDUCER	EA	2	$4,600.00	$9,200.00
618-41	24-INCH PIPE PLUG, MAG STD. DET. 427	EA	1	$460.00	$460.00
618-42	30-INCH PIPE PLUG, MAG STD. DET. 427	EA	2	$517.50	$1,035.00
618-43	36-INCH PIPE PLUG, MAG STD. DET. 427	EA	1	$575.00	$575.00
618-44	42-INCH PIPE PLUG, MAG STD. DET. 427	EA	1	$632.50	$632.50
618-45	60-INCH PIPE PLUG, MAG STD. DET. 427	EA	1	$747.50	$747.50
618-46	66-INCH PIPE PLUG, MAG STD. DET. 427	EA	2	$805.00	$1,610.00
618-47	PERMANENT PIPE SUPPORTS, MAG STD. DET. 403	EA	51	$747.50	$38,122.50
618-47(a)	PERMANENT PIPE SUPPORTS, MAG STD. DET. 403**	EA	13	$747.50	$9,717.50
621-1	28"X20" ARCH CMP	LF	180	$13.80	$2,484.00
621-2	END SECTION FOR 28"X20" ARCH CMP	EA	12	$86.25	$1,035.00
625-1	STORM DRAIN MANHOLE, MAG STD. DET. 522 AND DETAIL "A"	EA	16	$4,600.00	$73,600.00
625-2	STORM DRAIN MANHOLE, MAG STD. DET. P-1520 AND 522	EA	6	$4,600.00	$27,600.00
625-3	STORM DRAIN MANHOLE, MAG STD. DET. P-1560 AND 522	EA	8	$4,600.00	$36,800.00
	TOTAL BASE BID				$8,797,442.49

* CONCRETE CB = CONCRETE CATCHBASIN
**IF REQUIRED BY ENGINEER

SPECIAL PROVISIONS

PART 100 - GENERAL

100. General

Construction contract specifications for all portions of this project shall conform to the requirements of the Uniform Standard Specifications for Public Works Construction and the City of Phoenix Supplement (1988), sponsored and distributed by the Maricopa Association of Governments (Latest Edition), except as noted, including Revisions and Corrections. In all cases, the City of Phoenix Supplement to Maricopa Association of Governments (MAG) Uniform Standard Specifications (1988) Shall supersede the Maricopa Association of Governments Uniform Standard Specifications.

104. Scope of Work

This project is located on Cactus Road from 67th Avenue to the Agua Fria Outer Loop as depicted on Sheet 1 of the plans. Approximately 3.25 miles of storm drain varying in size from 60 to 120-inch is to be installed as shown in the plans. In addition, 94 catch basins or headwalls are to be installed and connected to the new storm drain and approximately 3200 feet of paved road is to be completely removed and replaced. Assorted utilities will be relocated as shown on the plans and in accordance with MAG Standard Specifications.

105. Utility Coordination

In order to mitigate potential conflicts and delays during construction, the Contractor shall coordinate the installation and relocation of all new and existing utilities on this project directly with the appropriate utility companies.

Should the Contractor encounter unforeseeable conflicts with any utility company, during construction, it shall be the Contractor's responsibility to rectify the conflict.

The Contractor shall exercise caution when working around any utilities; the facilities shall be treated as if in service.

All of the following utility companies have indicated that new and existing installations and relocations will be performed on this project. The Contractor shall coordinate these installations and relocations in accordance with these special provisions. Should the utility company elect to have the Owner's Contractor perform the work, the utility company shall submit the Contractor's cost proposal for the work to the City, stating that the utility company shall reimburse the Owner for this work.

The following contact persons will be available for the applicable utility company on this project:

U.S. West Communications	Ann Miller	395-2317
Southwest Gas Corporation	Elton Buell	484-5294
Arizona Public Service		371-6954
City of Peoria	Dan Nissan	412-7212
City of Glendale (Water and Sewer)	Pete Corpus	931-5561
Salt River Project		236-5900
Blue Stake (Advance Notice)		263-1100

107. LEGAL RELATIONS AND RESPONSIBILTY TO PUBLIC

Hauling and Grading Permit:

When the quantity of fill or excavation to be hauled exceeds 10,000 cubic yards,or when the duration of the haul is for more than 20 working days (i.e., Monday through Friday, inclusive), it shall be unlawful to haul, or cause to be hauled, fill or excavation, by truck, except upon the issuance of a haul route and grading permit by the Owner for such conditions as may reasonably be necessary to prevent creation of a nuisance or hazard to the public. The contact person with the City of Peoria is Mr. Larry Fudurich. Such conditions may include, but not be limited to:

1. Designation of specific routes to be used

2. Designation of specific locations and times of day access will be made to and from public right-of-way

3. Provision for safety precautions, such as the use of barricades, warning or traffic signs, flagmen, or police officers for traffic control

4. Payment of a cash bond in the amount of five hundred dollars ($500) in order to secure the cost of the removal of any spillage of fill or excavation and the cleaning of the right-of-way by the City, such bond to be returned to the applicant if no spillage occurs or if any spillage is removed and the right-of-way cleaned by the applicant to the satisfaction of the City Engineer

5. Any violation of the terms or conditions of the permit shall be sufficient grounds for the City Engineer to revise the permit.

Community Relations:

The Contractor shall provide a community relations program for the project. This will include, but not be limited to:

1. Distributing a pre-construction information letter to all residents within an area to be determined by the Engineer and/or the Citizen's Advocate, which shall contain, as a minimum, the following information:

   - Name of Contractor
   - 24-Hour Telephone Complaint Number
   - Brief Description of the Project
   - Names of Project Manager and Superintendent
   - Name of District Engineer
   - Name of Area Supervisor
   - Construction Schedule Including Anticipated Work Hours
   - Traffic Regulations Including Lane Restrictions
   - Time and Place for the Pre-Construction Meeting
   - Engineering Department's 24-Hour Telephone Number

2. Holding a pre-construction meeting with affected neighbors, businesses, schools, church, etc.

3. Scheduling and conducting monthly progress meetings with the affected business tenants and property owners.

4. Printing and distribution of public notices and/or newsletters

5. Holding other public meetings as required by the Engineer

   The Contractor shall use these or other means to inform the local citizens of necessary operations which will create high noise levels, street closures, limited access, detour locations, haul routes and material delivery routes, hours of construction, and disruption of bus routes and other delivery/pick-up routes.

Before beginning construction, the Contractor shall be required to post advance information signs and project signs to inform the public of the forthcoming project, construction dates, and Citizen's Information Line telephone number. The type, number, and locations of the advance information signs will be specified in the project specifications and plans. The Contractor will maintain the signs and update the information, as directed by the Engineer.

The Contractor will be required to furnish a private telephone line, to be used solely for receiving incoming calls from local citizens having questions or complaints concerning construction operations or procedures. The Contractor shall publish this telephone number and maintain a 24-hour answering service. The answering service shall be manned by Contractor personnel during all hours that there is any work being performed on the job site. The Contractor shall maintain a log of incoming calls, responses, and action taken, which shall be submitted to the Engineer weekly and/or upon request.

Disruption to utilities in service shall be minimized, and safety shall be maintained at all times. Proper advance notification of service disruption will be required.

No separate payment shall be made for Community Relations, the cost thereof shall be included in the price bid for miscellaneous work.

The Contractor shall submit a Public Information and Notification Plan in such a manner that the public pre-construction meeting shall be held prior to the start of construction. No payments shall be made to the Contractor for this item until the Owner approves the Plan.

Work which is eligible for reimbursement includes: Pre-construction meeting(s), weekly progress meetings, and construction meetings with impacted businesses, residents, schools, churches, etc.; scheduling; newsletter, when necessary (at least bi-weekly); temporary signs; and maintaining a 24-hour telephone hot-line for complaints. The Contractor shall coordinate with the Owner to determine the population to be notified of meetings.

The Contractor shall submit a final report/evaluation of the Public Information and Notification process performed for this project. The report shall be submitted before the Contractor receives his final payment.

108. Sequence of Construction

The sequencing and phasing of work specified or permitted herein shall comply at all times with the Special Traffic Regulations of these special provisions. Night work shall be allowed on this project, except that construction operations, such as temporary surface paving and any blasting which may be required, shall be done during daylight hours only. No night work shall begin without prior approval of the Engineer. It is recommended that construction of the main storm drain and appurtenances begin at the existing box culvert, east of Agua Fria Outer Loop Freeway and Drainage Channel and progress easterly to the end of the project, east of 67th Avenue. The sequence suggested herein is not mandatory. If the Contractor elects to change the suggested sequence, he shall, prior to construction, submit a written request for an alternate SEQUENCE OF CONSTRUCTION or an amendment to the sequence contained herein for review and approval by the Engineer.

Where trenches are left open overnight, and the depth of the trench exceeds three feet, the Contractor shall erect temporary fencing or have the area patrolled by security forces.

Public information notices and construction signs shall be paid at the lump sum contract price bid for **ITEM 108-1.**

PART 200 - EARTHWORK

205. Roadway Excavation

Construction shall conform to MAG Standard Specifications Section 205, except as modified herein.

1. Payment for roadway excavation shall be included in the price bid for construction or installation of the storm drain and connector pipes to which such roadway excavation is incidental or appurtenant. The cost of excavation shall include all pavement removal including pavement removal required for the storm drain, connector pipes and complete removal of the pavement from 91st Ave to 87th Ave.

220. Riprap Construction

Construction shall conform to MAG Standard Specifications Section 220, except as modified herein.

220.2 A geotextile fabric shall be installed under all riprap. The fabric shall be a non-woven polypropylene fabric and shall be Fibretex, Grade 140 as manufactured by Crown Zellerbach, mirafi or equal.

Riprap stone size shall be as large as can be conveniently placed in a layer of the required depth. The stone, excepting small stones and spalls used to chink interstices, shall be not less than 6 inches in diameter and at least 50 percent of the stone shall be at least 10 inches in diameter. No stone shall be larger than 14 inches in diameter.

220.3 The bed for riprap shall be shaped and trimmed to provide even surfaces.

220.4 Only plain riprap shall be used for the riprap requirements shown on the plans.

220.8 No separate payment for riprap or fiber filter for the N-type basins shall be made; the cost thereof shall be included in the price bid for the construction or installation of the N-type basins to which such work is incidental. Payment for all other riprap and fiber filter shall be made at the contract unit price per cubic yard for Bid **ITEM 220-1**. Such price shall include the cost for riprap, preparation of ground surfaces and placement of riprap.

PART 300 - STREETS AND RELATED WORK

301. Subgrade Preparation

Subgrade preparation construction shall conform to MAG Standard Specifications Section 301, except as modified herein.

No separate payment shall be made for subgrade preparation as such. West of 87th Avenue, the cost thereof, shall be included in the price bid for construction or installation of the untreated base to which such work is appurtenant or incidental. East of 87th Avenue, the cost thereof, shall be included in the price bid for construction or installation of the stormdrain and connector pipes, to which such work is appurtenant or incidental.

310. Untreated Base

Untreated Base construction shall conform to MAG Standard Specifications 310, except as modified.

Payment for untreated base course between 91st Avenue and 87th Avenue and ABC surfacing for the dirt road west of 91st Avenue shall be made at the contract unit price per ton for Bid **ITEM 310-1**. Such price shall include the cost for subgrade preparation, ABC placement, final grading and compaction.

313. Bituminous Treated Base Course

Bituminous treated base course construction shall conform to MAG Standard Specifications Section 313, except as modified herein.

1. Between 91st Avenue and 87th Avenue, payment for bituminous treated base course shall be made at the contract unit price per ton for Bid **ITEM 313-1**.

2. East of 87th Avenue, no separate payment for bituminous treated base course shall be made; the cost thereof shall be included in the price bid for the construction or installation of the storm drain or connector pipes to which such work is incidental or appurtenant.

315. Bituminous Prime Coat

Bituminous prime coat construction shall conform to MAG Standard Specifications Section 315, except as modified herein.

1. Between 91st Avenue and 87th Avenue, payment for bituminous prime coat shall be made at the contract unit price per ton for Bid **ITEM 315-1**.

2. East of 87th Avenue, no separate payment for bituminous prime coat shall be made; the cost thereof shall be included in the price bid for the construction or installation of the storm drain or connector pipes to which such work is incidental or appurtenant.

340. Concrete Curb, Gutter, Sidewalk, Driveway and Alley Entrance

Construction shall conform to MAG Standard Specifications 340 and paragraph 340-6 payment applies to Bid **ITEMS 340-1** and **340-2**.

345. Adjusting Frames, Covers, Valve Boxes and Water Meter Boxes

Construction shall conform to MAG Standard Specifications Section 345, except as modified herein.

No separate payment shall be made for this work as such; the cost thereof, shall be included in the price bid for construction or installation of the pavement replacement to which such work is incidental or appurtenant.

350. Removal of Existing Improvements

Construction shall conform to MAG Standard Specifications Section 350, except as modified herein.

Removal and replacement of the miscellaneous items shall be paid at the lump sum contract price for Bid **ITEM 350-1**. Such work shall include removal and replacement of existing fences and gates, public and private signs and other items specified in MAG Standard Specifications Section 350.

Paragraph 350.4 PAYMENT applies to Bid **ITEMS 350-2, 350-3** and **350-4**.

360. Telecommunications Installation and Relocation

Construction shall conform to MAG Standard Specifications Section 360, except as modified herein.

No separate payment shall be made for telephone relocations shown on the plans. The cost thereof shall be at the utilities expense where the plans call for the line to be relocated by others.

400 - RIGHT-OF-WAY AND TRAFFIC CONTROL

401. Traffic Control

Traffic Regulations:

Traffic regulations and control shall be in accordance with MAG Specifications Section 401, City of Phoenix Traffic Manual, guidelines provided in the plans and the following paragraphs.

1. The following shall be considered major streets: Cactus Road from 91st Avenue to 67th Avenue, 87th Avenue, 83rd Avenue, 79th Avenue, 75th Avenue, 71st Avenue and 67th Avenue.

2. Permission to restrict city streets, sidewalks and alleys shall be requested from the City of Peoria, the City of Glendale and the Maricopa County Department of Transportation. The Contractor will be required to submit a traffic control plan for restriction or closure when requesting restriction permission.

Special Traffic Regulations:

1. Cactus road at 83rd Avenue. On paved surfaces, when construction requires, Cactus Road can be reduced to 3 lanes (1 each way), with left-turn lanes open through traffic.

2. Cactus Road, 81st Avenue to 77th Drive. On paved surfaces, when construction requires, Cactus Road can be reduced to 3 lanes (1 each way) with left-turn lanes open through traffic.

3. Cactus Road, 75th Avenue to 71st Avenue. On paved surfaces, when construction requires, Cactus Road can be reduced to 3 lanes (1 each way) with left-turn lanes open through traffic.

4. Special Access Requirements. The Contractor shall provide and maintain clean, safe, and adequate pedestrian walkways and sidewalks, free of mud, dust, debris, equipment, maintaining access to all transit facilities and bus stops by providing temporary BUS STOP signs as needed (if any).

5. Payment for traffic regulation shall be made at the contract unit price per lump sum. The price shall include full compensation for furnishing labor (except off-duty police officers), materials, tools, equipment and incidentals to regulate and maintain traffic per the guidelines and these specifications.

Police Officer Requirements:

When construction restricts the intersections, the Contractor shall provide off-duty police officers to assist with traffic control at the intersections of 83rd Avenue, 79th Avenue, 75th Avenue, 71st Avenue, and 67th Avenue during Construction hours.

Paragraph 401.7 PAYMENT applies to Bid **ITEMS 401-1** and **401-2**.

405. Survey Markers

Construction of survey markers shall be in accordance with MAG Specifications Section 405, except as modified herein.

Prior to removal of any existing survey marker, brass cap, the contractor shall give the Engineer not less than 2 working days notice, in order that appropriate survey ties can be made for reestablishing the survey markers after construction has been completed.

Paragraph 405.5 PAYMENT applies to Bid **ITEM 405-1**.

420. Chain Link Fences

Replacement of existing chain link fence shall be in accordance with MAG Standard Specification 420, except as noted herein.

No separate payment shall be made for chain link fence replacement as such; the cost thereof, shall be included in the price bid for miscellaneous removals and other work.

PART 500 - STRUCTURES

505. Concrete Structures

Construction of all concrete structures shall be in accordance with MAG Standard Specification 505, except as noted herein.

The Contractor shall construct four special structures on the storm drain in accordance with the plans at station 9+89, station 20+80.5, station 100+57 and station 180+66. Payment for the special structures shall be made at the contract unit price per cubic yard for Bid **ITEM 505-1**. The Contractor shall construct "M" type catch basins, "N" type catch basins and headwall structures at the stations shown on the plans to the size and dimensions shown on the plans. Payment for the concrete headwalls shall be made at the contract unit price per cubic yard for Bid **ITEM 505-11**. Payment for the "M" and "N" type catch basins shall be made at the contract unit price for Bid **ITEMS 505-2** through

505-10. No separate payment shall be made to modify the catch basin dimensions in the field to avoid conflicting utilities.

PART 600 - WATER, CONCRETE REBAR, SEWER, AND STORM DRAIN

601. Trench Excavation, Backfilling and Compaction

Trench excavation, backfilling and compaction shall be in accordance with MAG Standard Specification 601, except as noted herein.

1. The Contractor shall take special note of the existing 40-inch, cast-in-place concrete irrigation pipeline from Station 73+40 to Station 127+00 and maintain a minimum clearance of 2 feet from the approximate centerline of the irrigation line.

2. The Contractor shall take special note of the 30-in sewer line which runs parallel and below the new storm drain from Station 21+30 to Station 47+35 and the 18-in sewer line which runs from Station 9+89 to Station 126+32.

3. The Contractor shall take special note of the existing irrigation box structure at Station 126+88 and coordinate with Salt River Project to complete construction during an irrigation dry-up period.

4. Permanent pipe supports for the various type and sizes of sewer, water and utility lines shall conform to the Standard Details and to the details shown on the plans. Such pipe supports shall be erected at the locations shown on the plans and at any other locations as necessary as determined by the Engineer.

   Payment for permanent pipe supports shall be made at the contract unit price per each completed installation. No separate payment shall be made for temporary pipe supports; the cost thereof, shall be included in the price bid for the construction or installation of the storm drain or connector pipe to which such work is incidental or appurtenant.

5. MAG Bedding: If this option is chosen, the trench width shall be as shown on sheet 71 of the project plans. The initial granular bedding shall be a minimum of 6" thick and shall otherwise be in accordance with MAG specifications. Bedding from the bottom of the pipe shall* conform to Section 601 of the MAG Specifications and shall be select material type B or aggregate base, in accordance with Section 702, Table 702.

The recommended sequence of backfill materials consists of:

- Bedding
- Imported or granular site soils with low expansive potentials to 1 foot above the top of the pipe.
- Native soils to within 2 feet of pavement surface.
- Imported or granular site soils with low expansive potentials to pavement subsurface level.

Compaction of the bedding material shall be in accordance with MAG 601 and the following:

> Backfill compaction should be accomplished by mechanical methods. Water jetting or flooding of loose, dumped backfills must be prohibited.

The Contractor shall excavate holes in the compacted bedding and backfill material to the depths, and at the locations, designated by the Engineer. As determined by the Engineer, these holes shall be of such size as to allow the required density testing to be performed in a safe manner. This shall include shoring or any other trench wall support measures required by OSHA.

6. Slurry Alternate: At his option, the Contractor may utilize a cement-enriched slurry A.B.C. bedding for the precast concrete pipe. The slurry A.B.C. will consist of 1 bag of portland cement per cubic yard of A.B.C. The slurry shall be placed at a minimum from the outside bottom of the pipe to the springline of the pipe. The slurry must have a minimum of an 8-inch slump. The slurry shall meet a minimum of 40 psi compressive strength at 7 days.

   Also, the Contractor may opt to excavate a trench having a cross-section with a rounded bottom rather than a flat bottom. If this option is chosen, the trench cross-section must maintain the minimum 6 inches between the outside wall of the pipe and the trench wall up to the springline.

No separate payment shall be made for excavation and backfilling of the storm drain and connector pipes; the cost thereof, shall be included in the price bid for construction or installation of the storm drain and connector pipes to which such work is incidental or appurtenant. Excavation shall include pavement removal as described above and in accordance with MAG standard specifications and details and the details shown in the plans. Backfill shall include the cost of all materials, labor and equipment to furnish, place and compact backfill to the roadway surface.

610. Waterline Construction and Relocation

Waterline Construction:

All waterline construction shall be in accordance with Section 610 of the MAG Specifications and City of Phoenix Supplements.

Payment for all water line construction and relocation shall be paid at the contract unit price for Bid **ITEMS 610-3** through **610-6**. No separate payment will be made for thrust blocks or anchor blocks. The cost there of shall be included in the price of the pipe.

Waterline Realignment:

In the event of an unforeseen conflict between storm drain construction not detailed on the plans and an existing waterline or as directed by the plans, the Contractor shall vertically and/or horizontally realign the waterline in accordance with MAG Standard Detail 370 and Section 610 of the MAG Standard Specifications.

The waterline realignment shall include, but not be limited to, excavation, backfill, compaction, pipe, fittings, offsets, couplings, sleeves, blocking, joint restraints, and hardware. The realigned waterline shall be visually inspected for leaks under line pressure prior to backfilling.

The Contractor shall arrange with the Engineer to have the line shut down in order to perform this work. At no cost to the Contractor, representatives of the City of Peoria or City of Glendale Water Department will take the line out of services, provide necessary valve cut-ins, and flush the line prior to placing it back in service. The contractor shall notify the City of Peoria and the City of Glendale prior to shut down of water lines.

All salvaged water line valves from the City of Peoria water distribution system shall be delivered to the City of Peoria.

Materials for waterline realignment shall be cast iron or ductile iron, in accordance with Section 610.3.

Measurement will be made per each realignment constructed for the various waterline sizes encountered.

Payment for realignment of waterlines shall be made at the unit price bid per each for Bid **ITEM 610-1**.

Waterline Encasement:

Waterlines shall be encased in locations shown on the plans per MAG Standard Details and the Plan Details. Payment for waterline encasement shall be made at the per unit contract price for Bid **ITEM 610-2**.

615. Sewer Line Relocation

The 18-inch sanitary sewer line between Station 127+18 and Station 131+17 shall be relocated in accordance with MAG Standard Specification 615, MAG Standard Details, except as noted herein and on the plans. The City of Peoria shall be notified prior to relocating the 18 inch sanitary sewer.

Payment for the sanitary sewer relocation shall be at the contract unit price per linear foot of relocation for Bid **ITEMS 615-1, 615-2** and **615-3**. The cost of such work should include the cost of materials, labor, excavation, backfill, pipe plugs, removal of existing sewer line and manholes as necessary and any incidental items required to relocate the sanitary sewer. Payment for sanitary sewer manholes shall be at the contract unit price for sewer manholes.

618. Storm Drain Construction

Storm drain and connector pipe construction shall be in accordance with MAG Standard Specification 618, except as noted herein.

Off-Site Inspection:

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

Corrections required on the shop drawings will not constitute valid reasons for delay in the project schedule.

Reinforced Concrete Pipe:

Construction shall conform to MAG Standard Specifications Section 618, except as modified herein. The design for storm drain pipe with greater than 108" diameter shall be in accordance with either of the two methods detailed below:

AASHTO Standard Specification for Highway Bridges, Section 17, Soil Reinforced Concrete Structural Interaction Systems: Said design shall be based on the embankment

installation load, using Fel = 1.15, a unit soil weight of 140 pounds per cubic foot, and the direct design method, based on pressure distribution, in accordance with Figure 17.4F(B), with the lateral pressure equal to 0.33 x We and a design bedding angle of 75 degrees. For a cement-enriched slurry A.B.C. bedding, the design bedding angle may be increased to 150 degrees.

Strength Design Method of ACI 318-71:

Said design shall be based on the heights of cover shown on the project plans. Loads shall be calculated using Marston's formula for an embankment condition. A soil weight of 140 pounds per cubic foot, a soil coefficient (Ku) of 0.150, and a settlement/projection ration (Rsdp) of 0.50 shall be used. Live load shall be based upon H-20 AASHTO loading factors, with thrust and movement coefficients based on Olander's coefficients and a 75-degree bedding angle. Should a cement-enriched slurry A.B.C. bedding be used, the design bedding angle may also be increased to 150 degrees.

All designs shall consider the effects of earth load, live load, pipe weight, and water weight.

In either of these methods, the minimum design concrete strength F'c shall not be less than 4000 psi, and the maximum, not greater than 6000 psi. The manufacturer shall set the wall thickness, which shall not be less than the inside diameter divided by twelve (12), and the design cover of concrete over steel shall be 1 inch. Also, the pipe manufacturer shall set the minimum yield strength of the reinforcing steel.

All designs shall be submitted to the Engineer for approval. Computer printouts of the designs are acceptable, provided data also is submitted verifying that the adapted computer program complies with the specified design criteria. Testing of the individual pipe sections will not be required, but materials certification and testing will be required for the concrete and reinforcing steel, as well as an affidavit of compliance of the completed pipe sections.

Wyes, Crosses, Tees, Pipe Supports and Other Fittings:

Payment for wyes, crosses, tees, pipe supports and other fittings shall be made at the contract unit price bid per each size and type of fitting for Bid **ITEMS 618-17** through **618-47**; and shall be compensation in full for the materials and labor to furnish and install the fitting, excavation, backfill, compaction, removal of obstructions, testing, joining, collars and field closures.

621. Corrugated Metal Pipe and Arches

Construction and installation of CMP and CMA shall be in accordance with MAG Standard Specifications section 621, except as noted herein.

Payment for corrugated metal pipe culverts shall made at the contract unit price bid per linear foot for Bid **ITEM 621-1** and shall be compensation in full for furnishing and installing the corrugated metal pipe as specified, including excavation, testing and all incidental costs not specifically covered in other items in the proposal for installing the culverts. Payment for corrugated metal arches end sections shall be made at the contract unit price bid per each installation for Bid **ITEM 621-2** and shall be compensation in full for furnishing and installing the corrugated metal arch as specified, including excavation, backfilling, compacting, testing and all incidental costs not specifically covered in other items in the proposal.

625. Manhole Construction

Manholes shall be constructed as shown on the plans and in accordance with MAG Standard Specifications 625, except as noted herein.

Payment for manholes shall be as noted in MAG Section 625.5 for Bid **ITEMS 625-1, 625-2** and **625-3**. In addition, payment for manholes shall include the cost of prefabricated tees that are used for manhole inlets to the storm drain.

630. Tapping Sleeves, Valves and Valve Boxes on Water Lines

All water valves shall be in accordance with Section 630 of the MAG Specifications and City of Phoenix Supplements.

All existing valves which are to be abandoned as a result of new waterline construction shall be salvaged, as directed by the Engineer.

All valve shutdown fees will be waived for work on water services and meters under these specifications. When it becomes necessary to shut down existing water mains and services to construct replacements, no main shall be left out of service for more than one (1) hour, and no individual service will be disrupted for more than five (5) continuous hours. Main valves shall be operated by representatives of the City of Peoria or the City of Glendale Water Department. Shutdowns will not begin before 8:00 a.m. and will not extend past 4:00 p.m.

When it becomes necessary to shut down an existing water service in order to construct a replacement, it shall be the Contractor's responsibility to notify all customers, in advance, that the water service will be turned off. The customers shall be notified, in writing, at least 24 hours in advance and also, verbally, the day the shutdown will occur. Initial notification shall include the reason for the shutdown, the date, the time, and the duration the water service will be shut off. A copy of the notification shall be given to the Engineer.

During construction, the Contractor shall be responsible for maintaining continuous access to the valve-operating nut for all water valves within project boundaries. Failure by the Contractor to do so relieves the City of Peoria or the City of Glendale Water Department of responsibility for any resultant claim and, also, shall be cause of canceling any request by the Contractor for water main shutdowns.

No separate payment shall be made for this work as such; the cost thereof, shall be included in the price bid for construction or installation of the items to which such work is incidental or appurtenant.