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ENGINEERING DEPARTMENT



PROJECT SPECIFICATIONS AND CONTRACT DOCUMENTS

P-885442

SQUAW PEAK PARKWAY

ARIZONA CANAL BRIDGE

W.O.#65531



MAYOR

TERRY GODDARD

CITY COUNCIL

- DISTRICT NO. 1 - DR. BILL PARKS
- DISTRICT NO. 2 - DUANE PELL
- DISTRICT NO. 3 - PAUL JOHNSON
- DISTRICT NO. 4 - JOHN B. NELSON

- DISTRICT NO. 5 - HOWARD ADAMS
- DISTRICT NO. 6 - LINDA NADOLSKI
- DISTRICT NO. 7 - MARY ROSE WILCOX
- DISTRICT NO. 8 - CALVIN C. GOODE

CITY MANAGER

MARVIN A. ANDREWS

A118.514

PRE-BID CONFERENCE AND QUESTIONS ON PLANS AND SPECIFICATIONS

A pre-bid conference will be held in the first floor Conference Room, Plaza Municipal Building, 125 East Washington Street, Phoenix, Arizona on: August 25, 1988 at 10:30 A.M. .

The purpose of this conference will be to discuss questions you may have on the project and clarify the plans and specifications.

Neither the Engineer nor the City of Phoenix shall be held responsible for any oral instruction. Any changes to the plans and specifications will be in the form of an addendum which will be furnished to all plan holders.

Should you desire additional information prior to submitting your bid, please call the following for questions on:

Plans, Technical/Special Provisions, or Proposal: Project Engineer, HNTB Consulting Engineer, Mr. Terry Weber, 602-954-7420, or City of Phoenix, Mr. Peter Johnson, 602-262-7691.

General Condition, Bid Bonds, Insurance, Payment and Performance Bonds and Contracts: Specifications, 602-262-4950.

Equal Employment Opportunities and Affirmative Action Programs: Human Relations Division, 602-262-6790.

Certified Minority/Women Business Enterprises (MBE's/WBE's): Minority Procurement Advisor, (602) 262-6790.

INDEX NO. BR-885442

TABLE OF CONTENTS

<u>SECTION I - Informative</u>	<u>Page</u>
(1) Pre-Bid Conference	
(2) Call for Bids	C.B. - 1
(3) Information for Bidders	I.B. - 1 to 3
(4) Affirmative Action Requirements	B.C. - 1 & 2
(5) Supplementary Conditions	S.C. - 1 to 6
(6) Special Provisions	S.P. - 1 to 16
(7) Specifications for Highway Lighting	H.L. - 1 to 10
(8) Specifications for Bridges	BR. - 1 to 20
<u>SECTION II - Proposal</u>	P - 1 to 9
Surety Bond	SB - 1
Noncollusion Affidavit	ABC - 1



CALL FOR BIDS
BIDS WILL BE OPENED
TUESDAY, SEPTEMBER 13, 1988 AT 4:00 P.M.

INDEX NO. BR-885442

Sealed bids will be received at the office of the City Engineer, Plaza Municipal Building, 125 East Washington Street, Phoenix, Arizona 85004 until the hour indicated for construction of the Squaw Peak Parkway Arizona Canal Bridge including grading, drainage of approaches, construction of retaining/noise walls, a bridge over the Arizona Canal and other incidental work.

Prospective bidders may examine and/or purchase plans, special provisions, and proposal pamphlets at the City Engineer's office. These documents may be purchased for \$30.00 per set. Only half-size plans will be available.

Pursuant to City of Phoenix Ordinance G-2772, on Prequalification of Contractors, all bidders must be prequalified to bid on this project.

Pursuant to City of Phoenix Ordinance G-1327, as amended, on Equal Employment Opportunity, all prime contractors and subcontractors are required to take affirmative action toward equal employment opportunity.

Pursuant to ARS 34-253, the lowest and/or best responsible bidder shall provide a noncollusion affidavit.

No proposal will be read unless accompanied by a proposal guarantee of cash, certified check, cashier's check or on the surety bond provided, for an amount not less than 5 percent of the amount bid.

The Council of the City of Phoenix reserves the right to award the contract to the lowest and/or best responsible bidder, or all bids will be rejected, as soon as practicable after the date of opening bids.

MARVIN A ANDREWS
City Manager

By


David Harmon, P.E.
Acting City Engineer

AUG 9 1988

Published: Arizona Business Gazette
August 15, 1988
(6)

INFORMATION FOR BIDDERS

.01 REFUNDS FOR PLANS AND SPECIFICATIONS

No refunds will be made for the return of plans and/or specifications by prospective bidders--either before or after the bid opening date.

.02 PREQUALIFICATION OF CONTRACTORS

This project IS subject to the City of Phoenix Ordinance G-2772, Prequalification of Contractors. All bidders must be prequalified in one of the following categories to bid on this project.

CATEGORIES: C-5 OR C-10

NOTE:

Any bidders who are not prequalified, as stated above, will have their proposal rejected as a non-qualified proposal.

.03 SUBMITTING BIDS

No proposal will be read unless accompanied by a proposal guarantee of cash, certified check, cashier's check or on the surety bond provided, for an amount not less than 5 percent of the amount bid.

The entire Specification, containing the completed proposal with the 5 percent proposal guarantee shall be submitted in a sealed envelope. The outside, lower righthand corner of which shall be marked as follows:

Bid of (Firm's name, address and phone number)

For: Squaw Peak Parkway, Arizona Canal Bridge
City of Phoenix Index No. BR-885442

Sealed bids shall be delivered to Administrative Section Counter of the Engineering Department prior to the time and date specified for bid opening.

This project is subject to the City of Phoenix' Ordinance G-1327, as amended, pertaining to Equal Employment Opportunity. The Affirmative Action Requirements are included as a part of the Specification on pages B-1 and B-2.

.04 CONTRACTOR'S LICENSE AND PRIVILEGE LICENSE

Each bidder shall include, on the Proposal sheet, his Contractor's License Classification and Number (ARS Title 32 Chapter 10). In addition, the bidder must include his City of Phoenix Privilege License Number (ARS 42-1305). Failure to provide this information will be just cause for declaring the bid non-responsive.

.05 RECORD DRAWINGS

The Contractor shall maintain a record set of plans at the job site. These shall be kept legible and current and shall show all changes or work added in a contrasting, reproducible color. When the project is substantially complete, the Contractor shall submit these plans to the Engineer for approval. The Engineer shall be the sole judge as to the acceptability of the record plans and receipt of an acceptable set is a prerequisite for final payment.

.06 NONCOLLUSION AFFIDAVIT

The lowest and/or best responsible bidder shall provide the attached noncollusion affidavit (page ABC-1), within 24 hours after bid opening.

.07 MBE PARTICIPATION

The successful bidder shall submit a "List of Minority and Non-Minority Subcontractors" pursuant to City of Phoenix Resolution #15629. The listing shall be made on a form provided with the contract documents and returned with the executed documents.

.08 PRE-CONSTRUCTION CONFERENCE

After completion of the Contract Documents, to include bonds, insurance and signature, and prior to the commencement of any work on the project, the Field Engineering Inspection Section (telephone 257-9599) will schedule a Pre-construction Conference. Normally, this will be held at the Field Engineering Building, 1034 East Madison, Phoenix, Arizona.

The purpose of this conference is to establish a working relationship between the contractor, utility firms and various City agencies. The agenda will include critical elements of the work schedule, submittal schedule, cost breakdown of major lump sum items, payment application and processing, coordination with the involved utility firms, emergency telephone numbers for all representatives involved in the course of construction and establishment of the Notice to Proceed date.

Minimum attendance by the contractor shall be a responsible company/corporate official, who is authorized to execute the sign documents on behalf of the firm, the job superintendent, and the contractor's safety officer.

.09 CASH FLOW

The contractor shall furnish to the City within 10 days of Notice to Proceed, an estimate of his monthly pay requests for the total project.

.10 IMMIGRATION REFORM AND CONTROL ACT

Compliance with the Immigration and Control Act of 1986 (IRCA) Required. Contractor understands and acknowledges the applicability of the IRCA to him. Contractor agrees to comply with the IRCA in performing under this Agreement and to permit City inspection of his personnel records to verify such compliance.

**BID CONDITIONS
AFFIRMATIVE ACTION REQUIREMENTS
EQUAL EMPLOYMENT OPPORTUNITY**

PART I: *Policy of the City of Phoenix on nondiscrimination in employment by City contractors and subcontractors.*

Construction contracts involving funds in excess of ten thousand dollars (\$10,000) shall be awarded to contractors, subcontractors, or suppliers who adhere to a policy of equal employment opportunity and demonstrate an affirmative effort to recruit, hire and upgrade the position of employees regardless of race, color, religion, sex or national origin.

PART II: *Bidding Conditions*

The provisions of these bid conditions are such that no contractor, subcontractor or supplier will be eligible for award of a construction contract, his portions of which exceed \$10,000 on a City of Phoenix project unless they have submitted a written affirmative action plan embodying both (1) goals and timetables of minority manpower utilization and (2) specific affirmative action steps directed at increasing minority manpower utilization.

(1) **Goals and Timetables.** The plan must set forth, as minimum, the following ranges of goals for minority manpower utilization in each trade which is to be used:

2-28-77 until further notice - 20%

This percentage applies to man-hours worked by each work class, at all levels.

In no event may a contractor, subcontractor or supplier utilize goals, timetables, or affirmative action steps required by this section in such a manner as to cause or result in discrimination against any person on account of race, color, religion, sex or national origin.

The goals as established in this section may vary when a contractor, subcontractor or supplier recruits his labor force in a well defined labor area. Such variation shall reflect the ethnic composition of the particular area in relation to the State of Arizona ethnic composition.

(2) **Affirmative Action Steps.** The City of Phoenix shall establish standards to be met by contractors, subcontractors or suppliers in order to be eligible for award of City Construction Contracts. Contractors, subcontractors and suppliers shall execute such further forms and documentation at such times and as may be required by the appropriate awarding authority of the City of Phoenix.

(3) **Reporting Requirements.**

(a) All prime contractors and subcontractors bidding on City construction shall submit the following reports:

An EEO-1 or Phoenix Employer Information Report

An Equal Employment Questionnaire

An Affirmative Action Program

Failure to have the above listed reports on file prior to bidding will cause the proposal to be considered irregular and may be grounds for rejection by the City Council.

If, prior to awarding of the project, the prime contractor remedies the irregular submittal of the subcontractor by compliance with the reporting requirements set forth above, the City Council, in its discretion, may waive the original defect and accept the proposal.

(b) The Human Relations Commission shall transmit, to contractors and subcontractors who have submitted bids to the City, notification of their obligation to comply with the reporting requirements of this subsection, by certified mail, on at least an annual basis.

Before the City can invoke the enforcement provision of refusing to award a contract due to failure to comply with the reporting requirements of this subsection, the prime contractor and subcontractor must have received such a notice from the Human Relations Commission prior to the bid opening date.

(c) The contractor and each of the subcontractors and suppliers shall at the request of the City of Phoenix deliver to the City copies of any Affirmative Action Reports required by Federal or state agencies.

(d) In order to promote the effectiveness of meeting these requirements all reports received in compliance with these reporting requirements shall be deemed confidential.

PART III: *Compliance and Enforcement.*

Contractors are responsible for informing their subcontractors (regardless of tier) and suppliers as to their respective obligations under these Bid Conditions. The contractor, subcontractor or supplier shall carry out such sanctions and penalties for violation of the equal opportunity clause including cancellation, termination and suspension of existing subcontracts as may be imposed or ordered by the City, pursuant to Ordinance. Any contractor, subcontractor or supplier who shall fail to carry out such sanctions and penalties shall be deemed to be in noncompliance with these Bid Conditions and City Ordinance.

Violation of any substantial requirement by a contractor, subcontractor or supplier covered by these Bid Conditions including the failure of such contractor, subcontractor or supplier to make a good faith effort to meet its fair share of the trade's goals of minority manpower utilization, shall be deemed to be noncompliance by such contractor, subcontractor or supplier with the Equal Opportunity Clause of the contract, and shall be grounds for imposition of the sanctions and penalties provided in Chapter 18, Article IV, Section 18-18, Code of the City of Phoenix.

The City shall review its contractors', subcontractors' and suppliers' employment practices during the performance of the contract.

PART IV: *Compliance with City Ordinance.*

The contractor agrees to comply with Chapter 18, Article IV of the Code of the City of Phoenix entitled "Nondiscrimination in Employment by City Contractors and Subcontractors", and all applicable amendments thereto.

SUPPLEMENTARY CONDITIONS

.01 STANDARD SPECIFICATIONS AND DETAILS

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

.02 PRECEDENCE OF CONTRACT DOCUMENTS

The city of Phoenix Supplements will govern over the MAG Standard Specifications and Details. In case of a discrepancy or conflict, plans will govern over both the City of Phoenix Supplements and MAG Standard Specifications and Details; Supplementary Conditions, Technical Provisions, Special Provisions, will govern over the City of Phoenix Supplements, the MAG Standard Specifications and Details and Plans.

.03 PARTIAL PAYMENTS

The Contracting Agency will make a partial payment to the Contractor on the basis of an estimate prepared by the Engineer for work completed and accepted through the preceding month. The Notice to Proceed date, which is designated for the specific project involved, will be used as the closing date of each partial pay period. Payment will be made no later than 20 days after mutual acceptance of the Engineer's Estimate.

Where feasible, quantities may be calculated for 5 days prior to the monthly closing date and projected for the remainder of the pay period.

.04 INDEMNIFICATION OF CITY AGAINST LIABILITY

The Contractor agrees to indemnify and save harmless the City of Phoenix, its officers, agents and employees, and any jurisdiction or agency issuing permits for any work included in the project, their officers, agents and employees, hereinafter referred to as indemnity, from all suits, including attorneys' fees and cost of litigation, actions, loss, damage, expense, cost or claims, of any character or any nature arising out of the work done in fulfillment of the terms of this contract or on account of any act, claim or amount arising or recovered under Workers' Compensation law, or arising out of the failure of the Contractor or those acting under Contractor to conform to any statutes, ordinances, regulation, law or court decree. It is the intent of the parties to this contract that the indemnity shall, in all instances, except for loss or damage resulting from the sole negligence of the indemnity, be indemnified against all liability, loss or damage of any nature whatever for or on account of any injuries to or death of person or

damages to or destruction of property belonging to any person arising, out of or in any way connected with the performance of this contract, regardless of whether or not the liability, loss or damage is caused by, or alleged to be caused in part by the negligence, gross negligence or fault of the indemnity. It is agreed that Contractor will be responsible for primary loss investigation, defense and judgment costs where this contract of indemnity applies.

.05 CONTRACTOR'S INSURANCE REQUIREMENTS

Concurrently with the execution of the Contract, the Contractor shall furnish the City of Phoenix a Certificate of Insurance on a standard insurance industry ACORD form. The minimum limits of liability shall be \$1,000,000.00 for General Liability and Automobile Liability and \$100,000.00 for Workman's Compensation. The ACORD form shall be issued by an insurance company authorized to transact business in the State of Arizona, or one that is named on the List of Unauthorized Insurers maintained by the Arizona Department of Insurance.

The Contractor shall maintain during the life of the contract such public liability and property damage insurance, both general and automobile liability, as shall protect him and any subcontractor performing work under the contract from all claims for bodily injury, including accidental death, as well as for property damage arising from operations under the contract - whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. These policies shall not expire until all the work has been completed and the project has been accepted by the City of Phoenix. If a policy does expire during the life of the contract, the Contractor shall provide a renewal certificate of the required insurance coverage to the City of Phoenix not less than five (5) days prior to the expiration date.

The City of Phoenix, a municipal corporation, its officers, agents and employees shall be names as additional insureds on all Public Liability and Property Damage Insurance and Builder's Risk/Course of Construction Insurance, when required, and this shall also be indicated on Certificates of Insurance issued to the City. The Contractor's coverage shall be primary for any and all losses arising out of the performance of this contract.

.06 MODIFICATION TO MAG UNIFORM STANDARD DETAIL 240 - VALLEY GUTTER

Reference Note 1 which reads "All concrete to be Class "B" unless otherwise approved. (Section 725)"

Change this note to read:

1. All concrete to be Class "A" unless otherwise approved. (Section 725).

.07 PRESSURE MANHOLE COVERS

Mag Detail 523, Change the Note (upper right corner) that reads "For a 30" M.H. opening. . . noted on the sheets" to read:

"For a 30" M.H. Opening, use the Std. watertight 30" M.H. Frame and Cover (Detail 423) and modify and install the frame and cover in accordance with Notes 1 through 12 listed below on this sheet."

.08 ALUMINUM MANHOLE COVERS

MAG Standard Detail 425 - 24" Aluminum Manhole Frame and Cover is not approved by the City of Phoenix.

.09 MODIFICATION TO MAG UNIFORM STANDARD DETAIL 522 - MANHOLE SHAFT

Reference Note 5 which calls for installation of manhole steps as required by agency. Manhole steps are NOT to be installed in any storm sewer manhole. If steps are provided, they shall be removed and the hole filled with Class "B" concrete.

.10 DISPOSAL OF SURPLUS MATERIAL

All surplus and/or waste material may be disposed of at the Contractor's discretion subject to the following conditions:

- A. If the City landfills are used, the Contractor shall pay the normal dumping fee.
- B. If private property within the City limits is used, the Contractor shall obtain written permission from the property owner and deliver a copy of this agreement to the Engineer prior to any hauling or dumping.

All disposal and grading shall be in strict conformance with the City of Phoenix Grading and Drainage Ordinance. The Contractor shall obtain and pay for the necessary permit(s).

- C. If the surplus material is disposed of outside the City limits, the Contractor shall comply with all applicable laws/ordinances of the agency concerned and be responsible for all cost incurred.

No measurement or direct payment will be made for the hauling and disposal of surplus and/or waste material, the cost shall be incidental to the cost of the project.

.11 CONTRACTOR'S MARSHALING YARDS

Contractors shall obtain approval of the City Engineer when using vacant property to park and service equipment and store material for use on City construction contracts.

- A. The Contractor shall notify adjacent property owners/residents of this proposed use.
- B. Any use of vacant property adjacent to or near the project for parking or servicing equipment and/or storing of material will require the Contractor to obtain written approval from the property owner. This approval shall contain any requirements which are a condition of this approval.
- C. A copy of the property owner's approval shall be submitted along with the Contractor's request to the City Engineer for approval for the use of the marshaling yard in connection with the project. An appropriate distance from adjacent property will be set by the City Engineer on a case by case basis based on the size and type of equipment to be used on the project.
- D. The yard shall be fenced and adequately dust-proofed in a manner such as to preclude tracking of mud onto paved City streets.
- E. Work in yard shall be scheduled so as to comply with the City Noise Ordinance.
- F. Equipment, materials, etc., shall be located so as to minimize impact on adjacent properties. A sound barrier may be required if deemed necessary by the City Engineer.
- G. The Contractor shall clean up property promptly upon completion of use.
- H. Contractor's request for approval shall specify in detail how he or she proposes to comply with D through G above.

.12 CITY OF PHOENIX SUPPLEMENT SUBSECTION 109.5.1 EQUIPMENT: IS MODIFIED TO ADD:

"Unless a prior written agreement has been made, the contracting Agency will not pay move-in/move out cost and standby equipment rates."

.13 REFERENCE CITY OF PHOENIX SUPPLEMENT SECTION 610 WATERLINE CONSTRUCTION, SUBSECTION 610.4.1 CONSTRUCTION WORK BY CITY FORCES, PARAGRAPH (A) DELETE THIS PARAGRAPH IN ITS ENTIRETY AND SUBSTITUTE THE FOLLOWING:

(A) City forces shall perform work on existing waterlines as indicated on the plans.

The Contractor shall coordinate with the Engineer to make the necessary arrangements to have the City forces perform the required work. There will be no charge to the Contractor for taps to existing waterlines, shut-downs for waterlines valve cut-in and waterline valve cut-in installation.

The Contractor will be responsible for paying for other shut-downs and the cost will be incidental to the job.

.14 HAUL PERMIT

On any project when the quantity of fill or excavation to be hauled exceeds 10,000 C.Y. or when the duration of the haul is for more than 20 working days, the Contractor shall:

- (A) Obtain a written (no fee) haul permit from the Development Services Department.
- (B) Obtain approval of the proposed haul route, number of trucks, etc., by the Streets and Traffic Department.

NOTE: Obtaining the haul permit and the approval by Streets and Traffic does not release the Contractor from strict compliance with MAG Subsection 108.5 Limitation of Operations.

.15 COOPERATION BETWEEN CONTRACTORS:

The attention of the Contractor is directed to the requirements of Subsection 105.7 in the MAG Standard Specifications.

It is anticipated that contracts immediately adjacent to this project on the north and the south will be advertised for bids in October, 1988 and March, 1989 respectively.

.16 DUST CONTROL

Dust control measures shall be in accordance with the Maricopa County Bureau of Air Pollution Control Rules and Regulations II.20A.3 and III.31A.

When hauling is done over highways or city streets, all material shall be removed from shelf areas of vehicles in order to eliminate spilling of material, and loads may be watered or covered to eliminate dust.

.17 NOISE CONTROL

Work performed during quiet hours and weekends will be sensitive to the surrounding residential neighborhoods. The Engineer shall determine what measures the Contractor will be required to take to inform the affected public of necessary operations creating high noise levels. These measures may include, but not be limited to:

- A. Printing and distribution of handbills to the local neighborhood.
- B. Broadcasted or printed media news releases.
- C. Public Meetings.

The Engineer will measure construction noise levels with equipment approved by the Engineer and furnished by the Contractor.

The noise level resulting from the Contractor's construction activities shall not exceed 90 dBA Leg at any right-of-way line abutting a residential area between the hours of 6:00 a.m. and 8:00 p.m. Monday through Saturday. The noise level at the right-of-way line abutting a residential area shall not exceed 67 dBA between the hours of 8:00 p.m. and 6:00 a.m. Monday through Saturday and 6:00 a.m. to 8:00 p.m. Sunday.

The intent is to provide periods of relief from construction noise during evening quiet hours and Sunday. To accomplish this, the Contractor may elect to, or the Engineer may require but not be limited to, the following measures:

- A. Use of spotters in lieu of audible reverse alarms.
- B. Temporary noise walls or barriers.
- C. Excessively noisy items of machinery to remain idle.
- D. Disallow operations which produce impact noise.
- E. Exhaust mufflers on all equipment meeting current Federal Standards.

Except for the items specifically listed in the proposal, no direct payment will be made for this work and the cost will be considered incidental to the contract.

DII311.8

SQUAW PEAK PARKWAY

ARIZONA CANAL BRIDGE

INDEX NUMBERS BR-885442

SPECIAL PROVISIONS

TO

UNIFORM STANDARD SPECIFICATIONS

FOR

PUBLIC WORKS CONSTRUCTION

MARICOPA ASSOCIATION OF GOVERNMENTS, ARIZONA

WITH

CITY OF PHOENIX SUPPLEMENT

**HOWARD NEEDLES TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
PHOENIX, ARIZONA**

AUGUST, 1988

TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>PAGE</u>
.01 GENERAL	SP 3
.02 TRAFFIC REGULATIONS	SP 3
.03 CONSTRUCTION TRAFFIC CONTROL	SP 4
.04 ROADWAY EXCAVATION (SECTION 205)	SP 5
.05 BORROW EXCAVATION (SECTION 210)	SP 5
.06 FILL CONSTRUCTION (SECTION 211)	SP 5
.07 EARTHWORK FOR OPEN CHANNELS (SECTION 215)	SP 5
.08 SUBGRADE PREPARATION (SECTION 301)	SP 5
.09 AGGREGATE BASE COURSE (SECTION 310)	SP 5
.10 ASPHALT CONCRETE (SECTION 321)	SP 6
.11 PORTLAND CEMENT CONCRETE PAVEMENT	SP 6
.12 PRESERVATIVE SEAL FOR ASPHALT CONCRETE (SECTION 334)	SP 6
.13 SLOPE PAVING	SP 6
.14 CHANNEL LINING	SP 7
.15 CONCRETE SPILLWAY	SP 7
.16 REMOVAL OF EXISTING IMPROVEMENTS (SECTION 350)	SP 8
.17 CONCRETE STRUCTURES (SECTION 505)	SP 9
.18 STORM SEWER CONSTRUCTION WITH PRECAST CONCRETE PIPE (SECTION 618)	SP 9
.19 STORM SEWER PIPE SIZE OPTION	SP 10
.20 STORM DRAIN MANHOLE	SP 10
.21 HEADWALL	SP 10
.22 UTILITIES	SP 10
.23 WROUGHT IRON FENCE	SP 12
	SP 1

TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>PAGE</u>
.24 CHAIN LINK FENCE	SP 14
.25 SAFETY BOLLARD	SP 14
.26 PUMP STATIONS	SP 14
.27 DEMOLITION OF BUILDINGS	SP 15
.28 ADJUST EXISTING MAHNHOLE FRAME AND COVER, STD. DET. 422	SP 16
.29 SPECIFICATIONS FOR HIGHWAY LIGHTING	SP 16
.30 SPECIFICATIONS FOR BRIDGES	SP 16

.01 GENERAL:

Construction contract specifications for this project shall conform to the requirements of the Uniform Standard Specifications for Public Works construction, and the City of Phoenix, Supplement (1987) sponsored and distributed by the Maricopa Association of Governments (latest Edition), except as noted below, including 1987 Revision and Corrections. In all cases, the City of Phoenix, Supplement to Maricopa Association of Governments, Uniform Standard Specifications (1987 Edition) shall supersede the MAG Uniform Standard Specifications. Special Provisions and Plan sheet notes, requirements and references to other specifications written for this Squaw Peak Parkway Segment 5B Project shall supersede the MAG Uniform Standard Specifications and the City of Phoenix Supplement.

The contractor shall furnish at no separate payment, a project field office for use by City personnel. This office shall be located on or adjacent to the project site as approved by the Engineer. The office shall be furnished with electric service, sanitary sewer facilities, telephones, air conditioning and heating, and water. Following are more specific details relating to the mobile field office:

- 1 - Project Office, 720 S.F. min. with 4 separate rooms
- 4 - Telephones with 2 separate lines on each phone
- 1 - Copy machine for 8 1/2 x 11 and 8 1/2 x 14 paper
- 6 - Desks
- 6 - Swivel desk chairs
- 9 - Folding chairs
- 2 - 4 Drawer file cabinets
- 1 - Plans table 2-1/2' x 6'
- 2 - 3 shelf bookcases
- 5 - 3' x 5' tables
- 1 - Large conference table
- 2 - 3' x 5' Dry erase boards

In addition to the furnishings required above, a weekly cleaning service must be provided. Bottled water and service shall also be provided by the contractor. No progress payments will be issued to the contractor until the engineers project office facilities are completely furnished and operational.

The Contractor shall maintain local street lighting for the duration of this project.

.02 TRAFFIC REGULATIONS:

1. All traffic and/or traffic control devices on this project shall be provided, maintained and/or controlled as specified in the City of Phoenix Traffic Barricade Manual, latest revision.

2. Permission to restrict City streets, sidewalks, and alleys (street closure permits) shall be requested as specified in Section III of the Traffic Barricade Manual.
3. Unless otherwise provided for in the following "Special Traffic Regulations" all traffic on this project shall be regulated as specified in Section IV of the Traffic Barricade Manual.
4. The Contractor shall furnish, install, maintain, move and remove barricades, install and remove signs, pavement striping, lighting, cones, and other traffic control devices, including flagging services and pilot trucks to provide a safe and efficient passage through and/or around the work to motorists and pedestrians and to protect workmen in or adjacent to the work zone. Also, the Contractor shall maintain all drainage in the construction zone.

The intent is to provide periods of relief from construction noise during evening quiet hours and Sunday. To accomplish this, the Contractor may elect to, or the Engineer may require but not be limited to, the following measures:

- A. Use of spotters in lieu of audible reverse alarms.
- B. Temporary noise walls or barriers.
- C. Excessively noisy items of machinery to remain idle.
- D. Disallow operations which produce impact noise.
- E. Exhaust mufflers on all equipment meeting current Federal Standards.

Except for the items specifically listed in the proposal, no direct payment will be made for this work and the costs are considered incidental to the contract.

.03 CONSTRUCTION TRAFFIC CONTROL:

The work under Item 37-Construction Traffic Control shall include all labor, materials, tools and equipment to furnish, install, and remove all construction traffic control devices as shown on the plans and as directed by the Engineer.

This item specifically includes street closing signing and detour signing for the bicycle route.

After award of the contract, the Contractor shall submit for approval of the Engineer, a description of his proposed haul routes to and from the site for delivery and disposal of all materials (i.e., fill, surplus excavated material, ABC, concrete, asphalt, pipe, etc.). The Contractor shall be restricted to use of the approved routes.

The contractor shall maintain access to all driveways.

.04 ROADWAY EXCAVATION (SECTION 205):

Roadway excavation shall conform TO MAG Standard Specifications Section 215, except that measurement and payment will be made under Item 3-Detention Basin Excavation.

.05 BORROW EXCAVATION (SECTION 210):

Borrow excavation shall conform to MAG Standard Specifications Section 210 for Imported Borrow, except that imported borrow will be measured from computed cross sections on the jobsite. Imported borrow shall not be placed prior to all excavation material being incorporated into fill area embankments unless approved in writing by the Engineer.

.06 FILL CONSTRUCTION (SECTION 211):

Fill construction shall conform to MAG Standard Specification Section 211.

Material utilized for fill construction shall be obtained from Detention Basin Excavation, Roadway Excavation and Borrow Excavation. No broken concrete or asphaltic concrete will be permitted to be incorporated into fill construction.

Compaction shall be not less than 95 percent in embankment, and under retaining wall footings from original ground level to top of embankment or bottom of footings.

No measurement or direct payment will be made for fill construction the cost being considered as included in the cost for Detention Basin Excavation and Borrow Excavation.

.07 EARTHWORK FOR OPEN CHANNELS (SECTION 215):

Earthwork for detention basins shall conform to MAG Standard Specification Section 215. Payment will be made under Item 3-Detention Basin Excavation.

.08 SUBGRADE PREPARATION (SECTION 301):

Subgrade preparation shall conform to MAG Standard Specification Section 301.

.09 AGGREGATE BASE COURSE (UNTREATED BASE) (SECTION 310):

Aggregate Base Course (ABC) shall comply with the provisions of Subsection 310 and 702.

.10 ASPHALT CONCRETE PAVEMENT (SECTION 321)

All Asphalt Concrete shall comply with the Provisions of Subsections 321 and 710.

.11 PORTLAND CEMENT CONCRETE PAVEMENT:

All Portland Cement Concrete Pavement for the south maintenance road and the bicycle path shall comply with the applicable requirements of Section 340 of the Uniform Standard Specifications and C.O.P. Det. P-1230, except that concrete shall be Class A and the minimum depth of transverse joints shall be 2 1/4 inches and expansion joints shall be at maximum intervals of 60 feet.

.12 PRESERVATIVE SEAL FOR ASPHALT CONCRETE (SECTION 334)

Preservative seal for asphalt concrete shall conform to MAG Standard Specification Section 334, except no direct measurement and payment will be made for preservative seal.

Asphalt preservative seal shall be applied on local streets where C-3/4 asphalt surface is utilized.

.13 SLOPE PAVING:

DESCRIPTION:

Slope paving shall consist of furnishing all materials and paving slopes with concrete at the locations called for on the plans in accordance with the details shown on the plans and these special provisions.

MATERIALS AND CONSTRUCTION:

Concrete shall be Class A conforming to the applicable requirements of Section 505 of the MAG Standard Specifications. When the concrete is applied to the earth slopes, the earth surface shall be compact and reasonably true to line and grade and shall be moist but shall hold no free water. Joints shall be constructed at the locations and in a manner acceptable to the Engineer.

MEASUREMENT AND PAYMENT:

Slope paving will be measured by the square yard of actual exposed surface areas placed to the required thickness. No measurement will be made of cut-off walls.

Payment for slope paving will be made at the contract price a square yard for Item 12 which price shall be full compensation for the item complete, including fine grading and reinforcing steel, as described and specified herein and on the project plans.

14. CHANNEL LINING:

DESCRIPTION:

Channel lining shall conform to the requirements specified herein for SLOPE PAVING. If pneumatically placed concrete is applied, it shall conform to ADOT Standard Specification Section 912.

MEASUREMENT AND PAYMENT:

Channel lining will be measured by the square yard in the manner specified herein for SLOPE PAVING.

Payment for channel lining will be made at the contract price a square yard for Item 13, which price shall be full compensation for the item complete, including reinforcing steel and fine grading, as described and specified herein and on the plans.

.15 CONCRETE SPILLWAY:

DESCRIPTION:

Concrete spillway shall consist of furnishing all materials and constructing spillway with concrete at the locations called for on the plans in accordance with the detail shown on the plans and these special provisions.

MATERIALS AND CONSTRUCTION:

Concrete shall be Class A conforming to the applicable requirements of Section 505 of the MAG Standard Specification. When the concrete is placed, the earth surface shall be compact and reasonably true to line and grade and shall be moist but shall hold no free water. Joints, if required, shall be constructed at the locations and in a manner acceptable to the Engineer.

MEASUREMENT AND PAYMENT:

Concrete spillway will be measured by the square yard of actual exposed surface area placed to the required thickness.

Payment for concrete spillway will be made at the contract price a square yard for Item 14 which price shall be full compensation for the item complete, including reinforcing steel, as described and specified herein and on the plans.

.16 REMOVAL OF EXISTING IMPROVEMENTS (SECTION 350):

REMOVAL OF CONCRETE CURBING, SIDEWALK, DRIVEWAY, VALLEY GUTTER, PIPE, BACKFILL AND COMPACT

The work under these items shall consist of the removal of existing concrete curbing, sidewalk, driveway, valley gutter, concrete slabs, asphalt pavement, and pipe, as specified in plans or as necessary. The work also consists of the disposal of all pipe, broken concrete, asphalt, and debris, and backfilling and compacting the void. Backfilling and compaction shall be in accordance with Sections 601 and 336.3. The Contractor may expose pipe and crush in-place where approved by the Engineer. Measurement and payment will be by the various units indicated in the Proposal.

REMOVAL OF STRUCTURES, BACKFILL AND COMPACT:

The work under this item shall consist of the removal of ditch lining, and manholes at the locations designated on the plans and/or as necessary for the construction of this project and shall include the disposal of the broken concrete and debris, backfilling and compacting. Backfill and compaction shall be in accordance with Section 601 and 336.3. If any septic tanks and/or cess pools are discovered the Contractor shall notify the Engineer and the County Health Department.

The Contractor shall salvage removed items where directed by Engineer. Salvaged items shall be removed with care and delivered to a place to be determined by the City.

Payment will be made at the lump sum price quoted in the bid proposal for bid item "REMOVE STRUCTURES, BACKFILL AND COMPACT."

MISCELLANEOUS REMOVAL AND OTHER WORK:

This item includes furnishing all labor, material, tools and equipment to complete the removal and disposal of the items specified on the plans, listed in MAG Section 350 and City of Phoenix Supplement thereto and other work of a minor nature which may develop during course of construction. Major items include asphalt pavement, steel street barrier (guardrail) and chain link fence.

The work shall also include furnishing all materials and installing temporary 8' high chain link fencing on each side of the Parkway from the beginning of the project to the end of the project and across both ends of the project as approved by the Engineer. Fencing shall be installed prior to beginning construction.

Payment will be made at the lump sum price quoted in the bid proposal for bid item "Miscellaneous Removal and Other Work."

.17 CONCRETE STRUCTURES (SECTION 505):

Catch Basins: Storm sewer catch basins shall be installed by type and at the locations indicated on the plans.

Storm sewer catch basins shall be constructed at the unit price bid for each type of catch basin, as represented by the respective bid item, regardless of dimensional or other differences occurring within a particular type. The unit price to be paid under these items shall be compensation in full for furnishing and placing catch basin structures as shown on the plans and as specified, including, when applicable, all removal and replacement of existing curb, gutter and sidewalk, concrete, reinforcing steel, forming, vibrating, finishing, curing, access opening frame and cover, embedded angles, grating, anchor bolts, structural excavation, backfill, compaction, pavement replacement, and any necessary modification of catch basin structures during construction.

.18 STORM SEWER CONSTRUCTION WITH PRECAST CONCRETE PIPE (SECTION 618):

1. Construction shall conform to MAG Standard Specification Section 618, except as modified herein.
2. MAG Subsection 601.2.3 Trench Grade is modified to add:
"The initial foundation for all pipe 12 inches or larger shall be select material Type B per MAG Section 702 or aggregate base course material."
3. MAG Subsection 601.4.2 Bedding is modified to add:
"For all pipe 12 inches or larger, bedding material shall be aggregate base course material per MAG Section 310 and 702."
4. City of Phoenix Supplement 618.3.4 Leakage Test: is not required for Precast Concrete Pipe.
5. Pipe Plugs: Pipe plugs will not be paid for.

No free outfall for a portion of this storm sewer will be available for some time; therefore, the Contractor will be required to pump out the catch basins as required by the Engineer. No payment will be made for this work.

.19 STORM SEWER PIPE SIZE OPTION

The Contractor may substitute the next larger multiple of 6-inch size storm sewer pipe for the intermediate 3-inch size pipes shown on this project at his discretion. The cost of the increase in size shall be borne by the Contractor. The intermediate 3-inch size pipe will remain in the proposal as the required size. If the Contractor elects to use the next larger multiple of 6-inch size pipe he shall be responsible for any utility or any other conflict caused by the increase in the size of the pipe. There shall be no extension of time granted for any delay caused by these conflicts.

.20 STORM DRAIN MANHOLE:

Storm drain manholes shall conform to MAG Standard Specifications Section 625 and COP STD. DET. P-1520 as modified by the details shown on the plans. The price paid for each manhole shall include the cost of furnishing and placing sand in the pipe and manhole and constructing the temporary concrete floor as called for in the detail shown on the plans.

.21 HEADWALL:

Headwalls shall be constructed in accordance with MAG STD. DET. 501-1 and DET. 501-2.

Measurement will be for each headwall constructed complete in place. Payment will be at the contract price bid in the proposal for each headwall which price shall include excavating, backfilling, trash rack, and furnishing all labor, materials, tools and equipment to perform the work.

.22 UTILITIES:

DESCRIPTION:

In the event of an unanticipated conflict with underground utilities during construction, the conflict shall be resolved in accordance with MAG Subsection 105.6 and City of Phoenix Supplement Sections 610.4.1, 610.4.2, and 615.6.

No conflicts are anticipated with the following utilities located within the project limits.

Arizona Public Service (APS):

An existing 69 KV powerline crosses the Squaw Peak Parkway construction centerline at approximately STATION 264+00. The contractor must maintain a minimum 11' clearance from the 69 KV powerline at all times. APS will be making adjustments to the 69 KV line. This 69 KV line may be de-energized on a daily basis upon request to APS by the contractor; however, due to power schedules, APS may not be able to comply with every request submitted.

To coordinate work with APS, the Contractor shall contact Mr. Al Field at telephone no. 371-6951.

Salt River Valley Water User's Association (SRVWUA):

The contractor must coordinate construction with the annual dry up schedule of the Arizona Canal. The Arizona Canal dry up will begin Midnight November 13, 1988 and will end Midnight December 12, 1988. See Salt River "Project Construction Specifications" shown herein. The Contractor is advised that some water may remain in the canal and he shall provide any necessary pumping equipment at his expense.

Salt River Project Power (SRP):

A power service will be required at the Arizona Canal. The contractor shall coordinate with SRP necessary and approved service equipment, power turn on and power drop location. The contractor shall provide all necessary trench, special backfill, conduit and service conductors. See requirements specified herein under "Specifications for Highway Lighting". It is anticipated that relocation of SRP facilities will be completed by November 1, 1988.

Southwest Gas Corporation:

An existing 2" gas line located in Octotillo Road east of the Arizona Canal and in 18th Place is to be abandoned in place. The contractor shall contact Southwest Gas Corporation one week prior to construction to verify the gas lines located within the project, limits have been abandoned.

U.S. West Communications (U.S. West) formerly Mountain Bell:

An existing overhead U.S. West facility crosses the Arizona Canal within the project limits. U.S. West will relocate the overhead facility and place an underground conduit crossing the Squaw Peak Parkway construction centerline at approximately STATION 270+75. The contractor shall contact U.S. West one week prior to construction and shall coordinate his work to facilitate the utility's relocation work.

Dimension Cable Services
Western Union

Dimension Cable and Western Union will be relocating their facilities within the project limits in conjunction with Arizona Public Service and U.S. West.

City of Phoenix:

Any waterline shutdowns requested by the Contractor, shall be paid for by the Contractor at the prevailing rate set by the Water and Wastewater Department. This work shall be coordinated with Water Distributions, 262-4711. The contractor must apply and pay for shutdowns at Water and Wastewater Technical Services, at 455 North 5th Street. No additional compensation will be made to the Contractor for payment of these fees.

.23 WROUGHT IRON FENCE:

DESCRIPTION:

Wrought iron fence shall consist of furnishing all materials and constructing fence and gates of steel, including posts and foundations. Wrought iron fence shall be fabricated, installed and painted black in color in accordance with the details shown on the plans and these specifications.

FABRICATION:

Prior to beginning any work on the fabrication of the fencing, the Contractor shall submit shop drawings for approval, showing complete fencing details including gates line, terminal and gate post locations and spacing.

Materials furnished for wrought iron fence shall be square steel tubing and shall conform to ASTM standards for tubular sections of hot rolled mild steel. The following minimum sizes shall be used:

<u>Item</u>	<u>Outside Dimension</u>	<u>Wall Thickness</u>
Line Posts	2" x 2" Galvanized	14 Gauge
Terminal & Gate Posts	2" x 3" Galvanized	11 Gauge
Fence Rails	2" x 2" Black	14 Gauge
Pickets	1" x 1" Black	16 Gauge

Line, terminal and gate posts shall be galvanized in accordance with the requirements of MAG Standard Specifications Section 771 unless otherwise specified.

Each post, rail, picket and section shall be:

- (1) Cleaned of oil, grease, etc., using Del Chemical's "Del's Grime Fighter" or approved equal.
- (2) Primed with Lupton Zinc Chromate Primer #171 or approved equal. Minimum dry film thickness - 2 MILS.
- (3) Painted by dipping in a dip tank containing Lupton Satin Black #170 or approved equal. Minimum dry film thickness - 1.8 MILS.

All painting shall be performed in conformance with MAG Standard Specification Section 530.

Gates shall be double-swing gates providing a clear opening of 12-feet. A heavy duty padlock hasp shall be provided near the center of each gate. Padlocks will be furnished by the City.

Welding shall be performed by the electric arc process and shall be done in conformance with Specifications for Welded highway and Railway Bridges of the American Welding Society. All but welds on exposed surfaces shall be ground flush with adjacent surfaces.

Fence panels shall be straight and true to dimensions.

ERECTION:

The wrought iron fence shall be carefully erected, true to line and grade. Posts, pickets and rails shall be vertical and parallel from the vertical for the full height of the panel not exceeding 1/8-inch. After erecting the fence, any abrasions or exposed steel shall be repaired in accordance with MAG Standard Specification Section 771 or Section 530.

MEASUREMENT AND PAYMENT:

- (1) The wrought iron fence will be measured by the linear foot from end to end along the face of the railing including gates and terminal sections.

- (2) The price paid per linear foot for fence shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work involved, including foundations, in constructing the fence in place as shown on the plans and as specified herein

.24 CHAIN LINK FENCE:

The work consists of furnishing all materials and constructing chain link fence at the locations shown on the plans in accordance with M.A.G. STD. DET. 160 and the requirements of MAG Standard Specifications Section 772.

Measurement of this work will be by the linear foot of chain link fence constructed. Fence will be measured along the top rail from center of end post to center of end post.

Payment will be made at the price per linear foot bid in the proposal for Item 16.

.25 SAFETY BOLLARD:

DESCRIPTION:

The work consists of furnishing all materials and constructing safety bollards at the locations shown on the plans in accordance with the details shown on the plans and the requirements of these special provisions.

MATERIALS:

Materials for safety bollards shall conform to the requirements in the details on the plans. Paint shall be acceptable to the Engineer.

MEASUREMENT AND PAYMENT:

Measurement of this work will be for each safety bollard furnished and installed complete in place.

Payment for this work will be made at the contract price each for the item complete, including concrete foundations, as described and specified herein and on the plans.

26. PUMP STATIONS:

DESCRIPTION:

The work consists of furnishing all materials and constructing pump installations for the future ACDC and for the north maintenance road at the locations and in accordance with the details shown on the project plans. The work shall also include furnishing the necessary permanent power supply and testing the pumps in a manner approved by the Engineer.

MATERIALS:

The following materials shall conform to the sections of the MAG Standard Specifications:

Reinforced Concrete Pipe	Section 735
Ductile Iron Pipe	Section 750
Concrete	Section 725
Reinforcing Steel	Section 727

Other materials shall be as specified on the plans. Flap gates shall be as approved by the Engineer.

MEASUREMENT:

Measurement of this work will be as a single unit for each pump installation complete in place.

PAYMENT:

Payment for this work will be made at the contract lump sum price for ITEM 35 - PUMP STATION NO. 1 and ITEM 36 - PUMP STATION NO. 2 which price shall be full compensation for the items complete including excavating, backfilling, pipe, concrete, reinforcing steel, pumps, controls, flapgates, headwall, trashrack, lockable covers, stairs, rungs and any other materials necessary to have complete and functioning pump stations, as described and specified herein and on the project plans.

.27 DEMOLITION OF BUILDINGS

The Contractor shall demolish the existing buildings shown on drawings at the location designated.

The Contractor shall obtain a demolition permit from the City of Phoenix prior to any demolition work.

The Contractor shall accept the premises as found. The City of Phoenix shall assume no responsibility for the condition of the buildings on the site or continuation in condition existing at the time of Proposal Invitation or thereafter. The Contractor shall assume all risk regarding damage or loss, whether by reason of fire, theft, or other casualty or happening to the specified buildings from the "Notice to Proceed" date and thereafter. No such damage or loss shall relieve the Contractor from his contract obligations to complete the work.

The Contractor shall plug all sanitary sewer lines leading from the buildings to be demolished. The Contractor shall contact the Water Department (262-6365) to turn off water services and to remove water meters. The Contractor shall contact the appropriate utility companies to disconnect gas, electric and telephone services.

The Contractor shall promptly remove all building materials and debris resulting from demolition as it accumulates. Material shall not be stored on site or in the right-of-way. Any salvaging operations must be performed at another site away from the demolition/construction area. No burning of any debris will be allowed on site. If the Contractor fails to remove excess debris promptly, the Engineer reserves the right to cause same to be removed at Contractor's expense.

Particular attention and adherence must be made to applicable portions of part 13 of the City of Phoenix, Construction Code, as amended. The method of demolition must be approved by the Building Official and the Engineer.

A general description of the building at the site is as follows:
6730 N. 18th Place

The site area is approximately 0.19 acres and contains a residential building.

The building is one story with a full basement and consists of wood frame construction with brick planter boxes on the east portion. The basement has concrete walls. The building is surrounded by a 8' concrete block wall south, a 6' concrete block wall west and a 6' concrete block wall north. A concrete driveway extends from the building carport to the west concrete curb and gutter on N. 18th Place. There is also landscaping on the site.

Measurement and payment shall be for the job lump sum and shall include complete demolition of all existing buildings, including floor slabs, basement structures, footing, pipes, etc., plugging sewer taps, clearing the site at the area designated on the plans, including all fences, walls, planter boxes and complete removal of all miscellaneous structures and debris from the site.

.28 ADJUST EXISTING MANHOLE FRAME AND COVER, STD. DET. 422:

The existing manhole shown on the plans shall be adjusted to grade in accordance with STD. DET. 422 and the applicable requirement of MAG Standard Specifications Section 625. No measurement or direct payment will be made for this work, the cost being considered as included in the cost of contract items.

.29 SPECIFICATION FOR HIGHWAY LIGHTING

Additional specifications (HL series) for highway lighting are included in these contract documents.

.30 SPECIFICATION FOR BRIDGES

Additional specifications (BR series) for bridges are included in these contract documents.

SQUAW PEAK PARKWAY

**LIGHTING
SPECIAL PROVISIONS**

TABLE OF CONTENTS

	<u>PAGE</u>
LIGHTING SPECIFICATIONS FOR SQUAW PEAK PARKWAY	HL1
LIGHTING	HL3
PULL BOXES, CONDUIT, CABLE, CONDUCTORS, WIRING PROCEDURES, SERVICE STRUCTURES AND FOUNDATIONS	HL8

CHAPTER 1

LIGHTING SPECIFICATIONS FOR ARIZONA CANAL BRIDGE AT THE SQUAW PEAK PARKWAY

1.0 Scope of Work

General:

The work as specified herein and shown on the Project Plans shall consist of furnishing all materials, labor, and services to complete a functional highway and area lighting systems. Included is the furnishing and installation of conduit, pull boxes, conductors, foundations, load centers, poles, mast arms, luminaires, junction boxes, and all appurtenances necessary for the operations of future highway and ramp lighting, area lighting, pedestrian tunnel lighting and maintenance road lighting.

All materials shall be new.

All work shall be done in compliance with applicable codes and regulations, these Special Provisions and the Arizona Department of Transportations (ADOT) Standard Specifications for Road and Bridge Construction 1987 Edition and ADOT Traffic Signal Lighting Standard Drawings, 1985 with revisions.

1. Scope:

ARIZONA CANAL BRIDGE PORTION OF WORK

1. Install junction boxes, conduit, conductors, anchor bolts, vandal protection boxes fixtures, and other miscellaneous electrical gear necessary to light the north maintenance road and pedestrian way. It is scheduled that once operational this lighting will be in operation 24 hours a day.
2. Install conduits, anchor bolts, junction boxes, and all else that is necessary for a future mainline roadway lighting which is necessary on this structure.
3. Payment: All conduit, conductors, barrier mounted junction boxes and junction boxes will be paid for under the respective bid items. The pole foundations for the future "I" poles shall be included in the cost of the barriers, bridge, and walls. The cost of vandal protection box, fixtures, and all other necessary material for the maintenance road lighting under the Canal Bridge shall be included in Item 57.

PEDESTRIAN TUNNEL PORTION OF WORK

1. There is a pedestrian tunnel on this Project south of the Canal Bridge and is titled the "South Maintenance Road and Bicycle Path". The tunnel will be illuminated 24 hours a day.
2. Install all conduits, junction boxes, anchor bolts, conductors, fixtures, vandal protection boxes, and miscellaneous electrical gear necessary for the lighting of this pedestrian tunnel.
3. Payment: All conduit, junction boxes and conductors will be paid for under respective bid items. The cost of vandal protection box and fixtures, and all other necessary materials for this lighting system shall be included in Item 56.

MAINLINE LIGHTING

1. Install all conduit, junction boxes, foundations, and other miscellaneous items necessary to provide for a future highway lighting system for the Squaw Peak Parkway.
2. Poles, mast arms, fixtures and conductors will be installed under a future contract.
3. The only operational lighting systems shall be for the maintenance roads and associated area lighting.
4. All mainline lighting items will be paid for under their respective payment items except for the foundations which will be included in the cost of retaining walls/soundwalls, and the structure.

OTHER LIGHTING WORK

1. Install all conduits, conductors, pull boxes, foundations, square poles, mast arms and shoe box fixtures necessary for all area lighting on this project.
2. Install all conduits, pull boxes conductors and the local center cabinet necessary to provide electrical service to the area lighting and maintenance road lighting.
3. Payment: The square poles and mast arm shall be included together and paid as an each item, shoe box luminaire, conduit, pull boxes and conductors shall be paid for under their respective items. The electrical service, load center and load center protection fence shall be included under one item.

2. QUALITY OF MATERIALS

1. Electrical equipment and luminaires shall meet the standard and bear labels of Underwriter Laboratories (UL) and the National Electrical Manufacturer's Association (NEMA).
2. All materials shall conform to Division VII "Traffic Control Facilities" of the ADOT Standard Specifications for Road and Bridge Construction, 1987 Edition.
3. Equipment and apparatus installed in an outdoor application shall have NEMA 3R Rating unless specified otherwise.
4. Workmanship shall be from craftsmen in their trade, use of unskilled labor shall be considered grounds for rejection of the work.

CHAPTER 2

LIGHTING

2.01 GENERAL SPECIFICATIONS FOR LIGHTING

All materials and equipment shall conform to these specifications, Sections 730 and 737 of ADOT Standard Specifications plans and special provisions. The poles, hardware, lighting fixtures, ballasts and all other items shall be manufactured and tested in accordance with: ASTM, ASA, AWS, UL, NEC, and NEMA.

a. Anchor Bolts:

1. Anchor bolts shall conform to Section 731-2.02(G) on page 454 of ADOT Specifications.
2. Anchor bolts shall be fully galvanized and shall include two nuts and washers.

b. Lighting Poles and Mast Arms:

1. Lighting poles and mast arms shall conform to all applicable requirements of Section 731 - Structural Supports and Foundations for Traffic Signal and Highway Lighting of ADOT Standard Specifications.

c. Pole Installation:

1. Poles shall not be erected until the foundation concrete has set at least 14 days. The pole shall be plumbed or raked as directed by the Engineer.
2. Pole shall be erected in a manner acceptable to the Engineer.

2.02 SPECIFICATIONS FOR LOAD CENTER CABINETS

- a. General - The cabinet(s) covered in this section shall be used to house the lighting control equipment. All cabinets shall be designed and installed as shown on the plans. Cabinet wiring shall be as shown on the plans, specified in these specifications and per requirement of Sections 736-2.01 and 736-2.03 of ADOT Standard Specifications, except for cabinet painting (refer to pages 555, 556 and 560).
- b. Door Requirements - All doors shall have neoprene gaskets installed so that when the doors are closed a raintight and dusttight seal is made. All door hinge pins shall be made of stainless steel. Door stop(s) will be required.
- c. Locks - All doors shall be equipped with a keyed tumbler lock, the self locking type.
- d. Installation - All cabinets shall be plumbed and leveled. Cabinets on concrete foundations shall have an approved caulking compound placed between the foundation and the base of the cabinet.
- e. All load center cabinets shall have fully hinged dead front panels in accordance with the ADOT specifications. The cabinet shall also be equipped with a photo electric cell with a Basket Guard.
- f. Cabinet Wiring
 1. All cabinet wiring shall be neat and firm. Wires shall be bound together with TY Wrap or equivalent.
 2. A minimum of six copies of the wiring diagram shall be furnished with each cabinet. Each cabinet shall be furnished with a plastic envelope to house one or more prints of the cabinet wiring diagram.
 3. All switches shall be of sufficient size and rating to perform the functions required, including conductor lug sizing.
- g. The voltage of the electrical service shall be 480 volt. The contractor shall coordinate with the Salt River Project on the service point, necessary service equipment, and turn on requirements. The contractor shall provide all necessary trench, conduit, special backfill and AWG No. 00 Service Conductors to SRP's power drop location. The length of this installation shall not exceed 100 feet.

Conduit and Conductors shall be paid for under their respective items.

- h. The cost of the load center shall also include a concrete maintenance pad and a black steel picket fence with a gate, see plans for details.
- i. The cabinet shall be painted dark brown in accordance to Squaw Peak color schemes. The paint shall be high quality enamel.

2.03 HIGH PRESSURE SODIUM LUMINAIRES

- a. General - The following high pressure sodium luminaires shall be used on this project:

- 1. For Area Lighting: General Electric D255, 480 volt Medium Cut-off Type III shoe box with 150 Watt HPS lamps. Each fixture shall be equipped with individual photo-electric controls and also a lexan vandal shield.
- 2. For maintenance road lighting at Arizona Canal Bridge and the Pedestrian Tunnel: Gardco Garage Luminaire, 100 watt HPS, SCA 14", flush mount, with a Type I Distribution, 480 volt. The luminaire shall be equipped with a SAG Polycarbonate lens for vandal protection.
- 3. All luminaries shall conform to the applicable requirements of Section 736 Highway and Sign Lighting of ADOT Standard Specifications.
- 4. All luminaires shall be equipped with Magnetic Regulator Ballast.

- b. Testing Procedures and Data Required

- 1. The manufacturer shall furnish the Contractor complete photometric data on each type of luminaire. The Contractor shall then furnish the City of Phoenix with three copies of this information. The Contractor shall also furnish the Engineer with two sets of adjusting and aiming instructions, as described above, and the Contractor shall furnish three sets of these same instructions to the City of Phoenix Streets and Traffic Department.
- 2. Upon request of the City of Phoenix, the Contractor shall furnish sample(s) of the proposed lighting equipment for testing. Test procedures shall conform to the Illumination Engineering Society (IES) Standards.
- 3. The Contractor shall submit lighting design calculations as requested by the Engineer. Calculations shall conform to IES Standards.

c. Housing

1. All luminaire housing (except for the underdeck luminaires) shall be a medium duromic bronze color and shall match the color of the square pole and it's mast arm.

d. Optical Assembly and Gasket (Reflector, Refractor, Lamp Socket, and Lamps).

1. The optical assembly and gaskets shall conform to Subsection 736-2.01(2) of ADOT Standard Specifications.
2. All lamps shall conform to Subsection 736-2.01(C) of ADOT Standard Specifications.

2.04 SPECIFICATIONS FOR BALLAST

1. Ballast for shoe boxes and maintenance road lights shall conform to Subsection 736-2.01(A)(3) of ADOT Standard Specifications.

2.05 PHOTOELECTRIC CONTROLS AND AUXILIARY CONTACTOR

a. General

1. Photoelectric controls, of types as specified in this section, shall be furnished and installed on each shoe box lighting fixture.
2. The supply voltage rating shall be 465-495 volts, 60 Hertz AC as required.
3. The operating temperature range shall be from -20 degrees to +150 degrees F. A time delay shall be incorporated into the circuit to prevent the street lights from being turned off at night by transient lights which might be focused on the control.
4. When the north sky illumination in the area falls to pre-set value, the lighting load shall be turned on.
5. A switch to permit manual operation of the lighting circuit shall be provided for each photoelectric control.

b. Photoelectric Control

1. The photoelectric control circuitry shall be solid state, except the control relay. The control relay shall be operated by direct current voltage through a full-wave bridge rectifier.

2. The photoelectric control shall have a built-in type lightning arrester with a spark-over value of 2,250 volts on a 1.5x40 microsecond wave and interrupts up to 1,000 amperes of Hertz power-follow current, without affecting the operating characteristics.
3. The photoelectric control shall meet the following electrical requirements:

Supply Voltage	480 volt; 60 Hz., AC
Photo cell coil	480 volts, AC
Inrush current	3.75 amperes at 480 volts, Single Phase
Relay contacts	Single pole, single throw
Operating level:	
Turn on	1.0 foot candle
Turn off	6.0 foot candle
Maximum Difference	10.0 foot candles
Minimum Difference	0.5 foot candles

2.06 VANDAL PROTECTION BOXES

1. General - The North and South maintenance road lighting will operate 24 hours a day, 365 days a year. The lighting is intended to try and prevent these dark underpasses from becoming security problems. Because of their remote location it is expected that all lighting features will be subjected to vandalism, thus a protection box for the Gandco Luminaires has been developed.
2. All anchor bolts shall be galvanized steel.
3. All steel shall meet or exceed the requirements of A-36 and shall be fully galvanized.
4. All welding shall be in accordance with the requirements of ADOT's Subsection 604-3.06 in the standard specifications.
5. The wire cloth shall be a lock crimp type mesh and shall be stainless steel.
6. The cost of these boxes shall be included in the cost of items 56 and 57 respectively.

CHAPTER 3

PULL BOXES, CONDUIT, CABLE, CONDUCTORS, WIRING PROCEDURES, SERVICE STRUCTURES AND FOUNDATIONS

3.01 PURPOSE

The purpose of this chapter is to present the specifications used by the City of Phoenix in procuring materials, work and equipment related to or a part of pull boxes, conduit, cable, conductors, wiring procedures, and foundations.

All materials shall be subject to approval of the Engineer.

3.02 SPECIFICATIONS FOR PULLBOXES

1. All pull boxes and extensions shall conform to Section 732 - Electrical Underground Material of ADOT Specifications (Refer to page 472-475). Payment for both size boxes (5 & 7) shall be under Item 44.
2. The barrier mounted junction boxes shall conform to the requirements on the plans and shall be paid for as each under Item 43.
3. No pull boxes or junction box shall be left uncovered overnight once conductors have been installed.

3.03 SPECIFICATIONS FOR CONDUIT

1. All conduit, fittings, and installation shall conform to Section 732 - Electrical Underground Material of ADOT Specifications (refer to pages 471-476 and 480 for Method of Measurement).
2. Trenching and backfilling for SRP service connections and conduit for street lighting shall be to their specific requirements.
3. Trenching and backfilling for all other conduits shall conform to Section 732 - Electrical Underground Material of ADOT Specifications (refer to pages 471-475).
4. The necessary trenching and backfilling cost for all conduit installations shall be included in the contract bid price for the respective conduit item. This includes special backfill required by SRP for the electrical service connection.

3.04 CABLE AND CONDUCTORS

1. All conductors shall be as specified under Section 732 - Electrical Underground Material of ADOT Specifications (refer to pages 467-472).
2. Conductors will be paid for by the linear foot which price shall include the cost for all connections and in-line fuses.

All pole luminaire installations shall be equipped with in-line fuses in the pull box.
3. All wiring, bonding, grounding, tagging, splices, testing and service system components shall conform to the requirement under Section 732 - Electrical Underground Material of ADOT Specifications (refer to pages 476-479).
4. All poles on structure shall be grounded to the structures rebar. The cost of all necessary grounding materials shall be included under the foundation, wall, barrier, or structure item.
5. All conductors shall be "hi-pot" (Meggar) tested in place prior to energization. Results of Meggar testing shall be recorded and documented with copies delivered to the City of Phoenix.

3.05 LIGHT POLES, MAST ARMS, AND FOUNDATIONS

1. All poles and mast arms shall conform to Section 731 - Structural Supports and Foundations for Traffic Signal and Highway Lighting of ADOT Specifications (refer to pages 452-454, 464-467).
2. All poles shall be equipped with a cable hook welded on the inside of the pole near the top. The hook shall be accessible from the removable cap. A cable support grip shall be included.
3. The Contractor shall provide the engineer with actual mill certifications which verify that all poles and mast arms are manufactured of domestic steel and meet all applicable ASTM Standards for steel grades.
4. All welding shall be in accordance with the requirements of Subsection 604-3.06 of ADOT Standard Specifications.
5. The square steel poles shall meet all requirements stated on the project plans and shall include an anchor bolt protection box, vandal resistant hardware and all other materials necessary to install the pole and mast arm.
6. All pole foundations or anchorages shall be grounded per the detail shown on the plans.
7. The Contractor shall submit engineering calculations prepared by the pole manufacturer which verify that the pole has been designed and manufactured in accordance to the requirement of AASHTO requirements for luminaire poles and mast arms.

3.06 JUNCTION BOXES

- a. Standard Junction Boxes shall be stainless steel and shall be fully gasketed. All junction boxes not covered by a luminaire shall be equipped with vandal resistant screws.
- b. Standard Junction Boxes shall be paid for under Item 41.

SQUAW PEAK PARKWAY

BRIDGES

SPECIAL PROVISIONS

SPECIFICATIONS FOR BRIDGES

TABLE OF CONTENTS

1. GENERAL	BR - 1
2. STRUCTURAL EXCAVATION AND BACKFILL	BR - 1
3. BRIDGE - CONCRETE MIX DESIGN	BR - 1
4. CAISSONS	BR - 2
5. VERTICAL RESTRAINERS	BR - 3
6. CONFINED ELASTOMERIC (POT) BEARINGS	BR - 4
7. DECK JOINT ASSEMBLIES	BR - 14
8. POST-TENSIONING	BR - 18
9. SALT RIVER PROJECT SPECIFICATIONS	BR - 18
10. SPECIAL CONSTRUCTION REQUIREMENTS	BR - 20

1. GENERAL

Construction contract specifications for this project shall conform to the requirements of the Uniform Standard Specifications for Public Works construction, and the City of Phoenix, Supplement (1987) sponsored and distributed by the Maricopa Association of Governments (latest Edition), except as noted below, including 1987 Revision and Corrections. In all cases, the City of Phoenix, Supplement to Maricopa Association of Governments, Uniform Standard Specifications (1987 Edition) shall supersede the MAG Uniform Standard Specifications. Special Provisions and Plan sheet notes, requirements and references to other specifications written for this Squaw Peak Parkway Segment 5B Project shall supersede the MAG Uniform Standard Specifications and the City of Phoenix Supplement.

2. STRUCTURE EXCAVATION AND BACKFILL

2.1 General

Structure excavation and backfill shall conform to Section 206 of the Uniform Standard Specifications. The limits of structure excavation and backfill shall be as shown on A.D.O.T. Standard Drawing C-13.40.

The area behind the abutments shall be compacted in accordance with Table 601-2, Type I of the Uniform Standard Specifications.

All backfill against the bridge abutments shall consist of Aggregate Base conforming to Sections 310 and 702 of the MAG Standard Specifications. Backfill shall be placed in horizontal lifts consistent with the maximum material size and type of compaction equipment in use and to a minimum of 95% of the maximum density at the optimum moisture content plus or minus 3% as determined in accordance with ASTM D-2922 and D-3017. Compaction equipment shall be maintained at least two (2) feet from the structure.

2.2 Basis of Payment

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

3. BRIDGE-CONCRETE MIX DESIGN

Concrete shall conform to Sections 505 and 725 of the Uniform Standard Specifications and shall have a compressive strength not less than that shown on the project plans.

Class AA concrete (modified) shall conform to all requirements for Class AA concrete, except that the required f'c shall be 6000 psi. The Class A concrete shall have f'c = 3500 psi and f'c = 3000 psi.

4. CAISSONS

4.1 General

The work under this section consists of furnishing all labor, materials and equipment necessary for the construction of the cast-in-place concrete caissons at the various locations in accordance with the details shown on the plans and the Uniform Standard Specifications.

4.2 Construction

Suitable casings shall be furnished and placed when required to prevent caving of the hole before concrete is placed therein.

All loose material existing at the bottom of the hole after drilling operations have been completed shall be removed before placing concrete in the hole. Material resulting from drilling holes shall be used in the adjacent embankment or disposed of as directed.

Before any personnel enter the caisson drill holes for cleaning or inspection purposes, the Contractor shall install a suitable casing or shield for protection against caving.

The use of water for drilling operations or for any other purpose where it may enter the hole will not be permitted. Surface water shall not be permitted to enter the hole, and all water that may have infiltrated the hole shall be removed from the hole before concrete is placed therein. The bottom of the casing shall be maintained not less than 1-foot below top of the concrete during withdrawal and placing operations, unless otherwise permitted by the Engineer.

Placement of Reinforcing Steel: The steel reinforcing cage shall be completely formed at the surface and lowered in one continuous operation with a crane of sufficient capacity. Clearance between the reinforcing steel and the walls of the excavation shall be provided by the use of spacer blocks which are firmly tied to the reinforcing cage in such a manner that they will not become disconnected or disoriented during lowering of the cage into the hole.

Placement of Concrete: Concrete shall be placed by pumping through a combination concrete pipe and tremie pipe. The tremie pipe shall be of a rigid, watertight pipe for the full length of the pier and shall not be less than six inches in diameter. The concrete shall be vibrated to insure that the concrete in the hole is dense and homogeneous.

The Contractor shall furnish a pump with a minimum capacity of sixty (60) cubic yards per hour at a pumping head of two hundred (200) feet.

The Contractor will be required to have a second (backup) pump on-site during concreting operations unless the Contractor can assure the Engineer of delivery of a second pump to the site within 45 minutes.

Reinforcing steel shall be in place and tremie pipe shall be inserted to the tip of the hole before concrete placement is started. Concrete shall be placed in a continuous operation. The delivery pipe shall be slowly withdrawn as the elevation of the concrete in the hole rises, but the discharge end of the pipe shall, at all times, be maintained a maximum of 5.0 feet above the surface of the concrete.

4.3 Method of Measurement

Measurement for payment of caisson construction shall be by the linear foot for the length from the bottom of the pier cap to the bottom of each caisson.

4.4 Basis for Payment

Payment for caisson construction shall be made at the unit price per lineal foot bid for the respective caisson item complete in place including concrete and reinforcing steel.

5. VERTICAL RESTRAINERS

5.1 Description

The Contractor shall furnish and install restrainer units consisting of cables and assemblies and associated materials or components, in conformance with the details shown on the project plans, and in accordance with the Standard Specifications and these Special Provisions.

5.2 Materials

Cables shall be 3.4 inch preformed, 6 x 19, wire strand core or independent wire rope core (IWRC), galvanized ASTM A-603 Class A coating, right regular lay, manufactured of improved plow steel with a minimum breaking strength of 23 tons. Two certified copies of mill test reports of each manufactured length of cable used shall be furnished to the Engineer.

Free ends of cable restrainer units shall be securely wrapped at each end to prevent separation.

The cable assemblies shall be shipped as a complete unit.

One complete cable assembly shall be furnished to the Engineer for testing.

Expanded polystyrene shall be commercially available polystyrene board. Expanded polystyrene shall have a flexural strength of 35 pounds per square inch, minimum, determined in accordance with AASHTO Designation M-203, and a compressive yield strength of between 16 and 40 pounds per square inch, at 5 percent compression. When shown on the plans, surfaces of expanded polystyrene shall be faced with hardboard. Hardboard shall be 1/8-inch minimum thickness, conforming to the Federal Specification LLL-D-180, any type.

Other facing materials may be used provided they furnish equivalent protection. All boards shall be held in place by nails, waterproof adhesive, or other means approved by the Engineer.

Expansion joint filler shall be new non-extruding and resilient filler (bituminous type) conforming to the provisions of ASTM D-1751.

5.3 Construction Requirements

Restrainers shall be installed as indicated on the project plans.

The Contractor shall provide means of holding the cable assemblies in their planned positions.

5.4 Measurement

No separate measurement will be made for Vertical Restrainer.

5.5 Basis of Payment

No separate payment will be made for Vertical Restrainers. The cost of this item shall be included in the price bid for contract items.

6. CONFINED ELASTOMERIC (POT) BEARINGS

6.1 Description

This work shall consist of designing, testing, furnishing and installing confined elastomeric bearings (pot bearings) of the types and for the load and rotational capacities and at the locations and in accordance with the details shown on the project plans and the requirements of these Special Provisions.

6.2 Definitions

"Pot Bearings" shall consist of a rotational element comprised of an elastomeric disc totally confined within a steel cylinder, including sole plate, piston, TFE discs, cylinders, masonry plate and anchorage as designed and manufactured by the following companies:

Spences Dynamics Corporation
8-235 Promenade Street
Providence, Rhode Island 02908

The D.S. Brown Company
P.O. Box 158
North Baltimore, Ohio 45872

The various types of pot bearings are defined as follows:

"Fixed Bearings" shall be defined to mean pot bearings that are restrained against all horizontal movement due to horizontal forces equal to or less than ten percent of the vertical load capacity of the bearing.

"Nonguided Expansion Bearings" shall be defined to mean pot bearings that have sliding surfaces of TFE and stainless steel to accommodate structural movement in all horizontal directions.

"Guided Expansion Bearings" shall be defined to mean pot bearings that have sliding surfaces of TFE and stainless steel and guide bars to accommodate structural movement in a specified horizontal direction.

6.3 Materials

Structural steel shall conform to the requirement of AASHTO M 183, M 223, or M 222.

Elastomers shall conform to the requirements of Subsection 2.25.2, the applicable requirements of Subsection 2.25.3 and Tables A and B of the AASHTO Standard Specifications for Highway Bridges. The hardness, Type A durometer, shall be 50 ± 5 .

Elastomer seals shall be metal conforming to the following requirements:

Flat brass rings shall conform to the requirements of ASTM B 36, half hard.

Round cross section brass rings shall conform to the requirements of Federal Specification QQB626, Composition 22, half hard.

TFE shall conform to the requirements of Section 27 of the AASHTO Standard Specifications for Highway Bridges.

Stainless steel sliding surfaces shall conform to the requirements of ASTM A 240, Type 340.

6.4 Design

General

Unless otherwise specified on the project plans, pot bearings shall be designed in accordance with the applicable requirements of the AASHTO Standard Specifications for Highway Bridges, and in accordance with the following requirements:

1. The minimum in service rotational capacity in any direction shall be as shown on the project plans.
2. Pot bearings shall be able to accommodate a minimum vertical load equal to the permanent dead load and a maximum vertical load equal to the required bearing capacity as given on the project plans.
3. Guided expansion bearings and fixed bearings shall be able to resist horizontal forces equal to ten percent of the vertical load capacity shown on the project plans.
4. No more than two guided expansion bearings shall be considered to share horizontal loads at any one bent.
5. The horizontal load capacity of guided expansion bearings and fixed bearing shall not include the resistance due to bearing friction.

When required on the project plans, the Contractor shall perform a study to determine the direction and placement of guided expansion bearings supporting skewed or curved structures such that damage due to wedging will not occur.

Elastomeric Disc

The minimum thickness of the confined elastomeric disc shall be determined by the following formula:

$$t = ID/C$$

where

- t = minimum thickness of elastomeric disc
ID = inside diameter of pot cylinder
C = 25 for Less than .011 radians of rotation
20 for .011 through 0.16 radians of rotation
15 for Over .016 radians of rotation

The average pressure on the elastomeric disc shall not exceed 3,675 pounds per square inch under a load equal to the required bearing capacity and the average pressure on the elastomeric disc shall not be less than 700 pounds per square inch due to dead load only.

TFE Discs

The average pressure on the TFE discs shall not exceed 3,675 pounds per square inch under a load equal to the required bearing capacity.

Guide Bar Connections

The design of high tensile screws shall be in accordance with the requirements of Subsections 1.7.22 and 1.7.41(C) of the AASHTO Standard Specifications for Highway Bridges.

Fasteners not listed in Table 1.7.41(C) shall be designed for an allowable stress in single shear equal to 20 percent of the minimum tensile strength (F_u) of the fastener.

6.5 Fabrication

General

The design and fabrication of pot bearings shall be such that the pot cylinder and piston assembly can be removed for replacement or repair.

The overall height of the pot bearing shall not exceed the nominal height by more than $3/16$ of an inch or be less than $1/16$ of an inch under the nominal height of the bearing.

The edges of all parts of the pot bearing shall be broken by grinding so that sharp edges are eliminated.

Shop Drawings

Prior to fabrication, the Contractor shall submit eight sets of shop drawings to the Engineer for his approval. The shop drawings shall show complete details of the sole plate and anchorage, masonry plate and anchor bolt hole locations, anchor bolt size and layout, and the method of installation to be followed.

In determining the quality or suitability of a pot bearing submitted for approval for each application, the factors to be considered will include, but will not be limited to, the capability of installing or removing portions of the bearing after installation, and the ability to function without distress to any component.

Elastomeric Disc

Elastomeric discs shall be fabricated of a maximum of three disc layers.

The upper edge of elastomeric discs that are retained by flat brass sealing rings shall be recessed to accommodate the rings.

The thickness of each elastomeric disc shall be within a tolerance of -0.0 to $+1/8$ of an inch of the design thickness.

The diameter of each elastomeric disc shall be within a tolerance of $+ 1/16$ of an inch of the design diameter for diameters less than or equal to 20 inches and within a tolerance of $+ 3/32$ of an inch of the design diameter for diameters over 20 inches.

TFE Discs

TFE discs having the same diameter as the inside diameter of the pot cylinder and a thickness of 0.015 of an inch each, shall be located above and below the elastomeric disc for the purpose of lubrication.

Pot Cylinder

Pot cylinders shall be machined from a solid plate or fabricated by welding a flame cut shape to a plate. Fabricated pot cylinders shall be 100 percent ultrasonically tested at the interior weld and magnetic particle tested at the exterior weld.

The minimum depth of the cavity in the pot cylinder shall be such that a minimum of 0.10 of an inch vertical clearance remains between the top of the cavity and the closest point of contact of the elastomer seal with the cylinder wall upon rotating the piston an amount equal to the required rotational capacity plus 0.02 radians.

The inside diameter of the pot cylinder shall be the same as the diameter of the elastomeric disc and shall be machined to a tolerance of $+ 0.005$ of an inch for diameters up to and including 20 inches and to a tolerance of $+ 0.007$ of an inch for diameters over 20 inches. The internal finish of the pot cylinder shall be equal to or less than 125 micro inches root mean square.

The underside of the pot cylinder shall be machined parallel to the inside to a Class A tolerance for flatness as hereinafter specified.

The pot cylinder shall be connected to the masonry plate by means of a full fillet weld around the entire perimeter of the pot cylinder or shall be seated in a formed recess in the masonry plate, without welding, to a depth of 0.019 of an inch minimum.

Piston

The outside diameter of the piston shall be 0.03 of an inch to 0.05 of an inch less than the inside diameter of the pot cylinder where flat brass sealing rings are used and shall be 0.02 of an inch to 0.10 of an inch less than the inside diameter of the pot cylinder where round brass sealing rings are used to contain the elastomeric disc.

The piston thickness shall be at least eight percent of the inside diameter of the pot cylinder for square shaped pots and at least six percent of the inside diameter of the pot cylinder for round shaped pots.

The lower outside edge of pistons using round brass section sealing rings shall be beveled to accept and retain the brass rings and permit full design rotation.

For laterally restrained pot bearing designs that incorporate a slotted keyway in the top surface of the piston, a cold finished steel bar shall be press fit into the keyway slot and welded at both ends or, alternately, the piston and steel bar shall be machined from one piece of steel.

The diameter of the piston shall be within a tolerance of $+ 0.005$ of an inch for diameter less than or equal to 20 inches and within a tolerance of $+ 0.007$ of an inch for diameters over 20 inches.

The surface on the upper side of the piston shall be machined to a Class A tolerance for flatness and the surface of the lower side of the piston shall be machined to a Class B tolerance for flatness as hereinafter specified. Machined finishes shall be equal to or less than 125 micro inches root mean square.

Elastomer Seals

- (1) Flat brass rings shall meet the following requirements:

The width shall be a minimum of $3/8$ of an inch for bearing capacities less than or equal to 1,000 kips and a minimum of $1/2$ of an inch for bearing capacities over 1,000 kips.

The thickness shall be a minimum of 0.050 of an inch.

Two rings shall be used for bearing capacities less than 1,000 kips; three rings shall be used for bearing capacities that are greater than or equal to 1,000 kips and less than or equal to 3,000 kips; four rings shall be used for bearing capacities over 3,000 kips.

The rings shall fit snugly against the surface of the inside perimeter of the pot cylinder and the ring ends shall be cut at an angle of 45 degrees with a minimum gap of 0.050 of an inch between ring ends. Piston ring gaps shall be staggered 180 degrees apart.

- (2) Round cross section rings shall meet the following requirements:

The rings shall be one piece with the ends brazed to form a solid ring.

The rings shall fit snugly against the surface of the inside perimeter of the pot cylinder

TFE Sliding Surface

Unfilled TFE shall be a minimum of 1/8 of an inch thick and a maximum of 5/16 of an inch thick when recessed into the top of the piston for half its thickness and a minimum of 3/32 of an inch thick and a maximum of 1/8 of an inch thick when bonded to the top surface of the piston.

Filled TFE shall be minimum of 1/16 of an inch thick and a maximum of 3/32 of an inch thick when bonded to the top surface of the piston. The bond shall meet the peel test requirements for 25 pounds per inch in 180 degrees. When recessed into the surface of the piston for half its thickness it shall be a minimum of 3/32 of an inch thick and a maximum of 3/16 of an inch thick.

TFE surfaces shall meet the requirements for a Class A tolerance for flatness as hereinafter specified.

Stainless Steel Sliding Surface

Stainless steel sliding surfaces for expansion bearings shall not be less than 0.040 of an inch thick nor more than 0.090 of an inch thick and shall be connected to the bottom of the sole plate by means of a seal weld around the entire perimeter of the sliding surface such that the stainless steel is in constant contact with the sole plate and the sliding surface is smooth and flat.

The stainless steel sliding surface area shall be such that it completely covers the TFE sliding surface in all operating positions and such that a minimum of one inch clearance between the edges of the two sliding surfaces will be maintained for every direction of movement.

The stainless steel sliding surface shall meet the requirements for a Class A tolerance for flatness as hereinafter specified and the surface finish shall be equal to or less than ten micro inches root mean square.

Guide Bars

Guide bars shall be connected to the sole plate by welding or by high tensile screw connections.

The clearance between the guide bars and the parallel surface upon which the bars bear horizontal load shall be $1/16$ of an inch unless otherwise specified on the project plans.

The dimensions and locations of guide bars shall be such that the guided member is contained within the guide bars throughout the entire structural movement and rotation of the bearing.

Guide bar lengths shall be fabricated to a tolerance of $+ 1/8$ of an inch and the sectional dimensions of the bar shall be fabricated to a tolerance of $\pm 1/16$ of an inch.

The distance between guide bars, as measured perpendicularly to the bars and along the surface of the sole plate shall be to a tolerance of $1/32$ of an inch of the nominal dimension.

Guide bars shall be parallel to surfaces upon which they bear and to other guide bars to within a tolerance of $\pm 1/32$ of an inch for the full length of the bar.

Surfaces on the guide bar that bear against another surface shall meet the requirements for a Class A tolerance for flatness as hereinafter specified.

Sole Plate

The sole plate thickness shall be within a tolerance of $-1/32$ of an inch to $+ 1/8$ of an inch and no beveled edge shall be less than $5/8$ of an inch thick.

The plan dimension tolerances for sole plates shall be as follows:

Plan dimensions less than or equal to 30 inches shall be within a tolerance of -0 inches to $+ 1/8$ of an inch.

Plan dimensions over 30 inches shall be within a tolerance of -0 inches to $+ 3/32$ of an inch.

The upper surface of the sole plate shall conform to the requirements of a Class B tolerance for flatness as hereinafter specified.

Pot bearings requiring a center guided key shall have a recess machined into the sole plate a maximum of $1/8$ of an inch wider than the shear key.

Masonry and Distribution Plates

The plan dimension tolerances for masonry and distribution plates shall be as follows:

Plan dimension less than or equal to 30 inches shall be within a tolerance of -0 inches to + 1/8 of an inch.

Plan dimensions over 30 inches shall be within a tolerance of -0 inches to + 3/16 of an inch.

The surfaces of masonry and distribution plates shall conform to the requirements of a Class B tolerance for flatness as hereinafter specified.

Welding

All welding and inspection of welding for structural steel shall be performed in accordance with the requirements of the American Welding Society, (AWS) Structural Welding Code AWS D1.1-80, and of the AASHTO Standard Specifications for Highway Bridges. In the event of any conflict, the latter Specifications shall govern.

The use of electro-slag welding process on structural steel will not be permitted.

Tolerances for Flatness

The flatness of bearing surfaces shall be determined by placing a precision straightedge on the surface to be measured and attempting to insert a feeler gauge, of the required flatness tolerance, under the straightedge.

The precision straightedge shall be longer than the "nominal dimension" being measured, where the term "nominal dimension" shall be interpreted to mean the actual dimension of the plate under the straightedge where the straightedge is not parallel to any plan dimension of the plate being measured.

The feeler gauge shall have an accuracy of plus or minus 0.001 of an inch and a plate shall be considered as acceptable if the feeler gauge does not pass under the straightedge for any random position of the straightedge on the plate surface.

Tolerances for flatness shall be as follows:

Class A	0.0005	x	"nominal dimension"
Class B	0.001	x	"nominal dimension"
Class C	0.002	x	"nominal dimension"

Finishes

The exterior and interior surfaces of pot bearings shall be zinc metalized in accordance with the requirements of AWS C2.2. Zinc metalizing shall be a minimum of six mils on exterior surfaces and a minimum of two mils on interior surfaces.

Anchor bolts, nuts and washers shall be galvanized after fabrication in accordance with the requirements of ASTM A 153.

6.6 Testing

Friction Test

The coefficient of friction shall be determined for at least one sample, chosen at random from the production lot, in accordance with the requirements of Subsection 2.27.4 of the AASHTO Standard Specifications for Highway Bridges.

Load Test

A proof load test shall be performed on at least one sample, chosen at random from the production lot, by applying a load equal to 150 percent of the design capacity for a period of one hour.

The test bearings shall show no indications of failure or other defects while under load or subsequently upon disassembly and inspection.

6.7 Certification

Certificates of Analysis conforming to the requirements of Section 106.2 of the Standard Specifications shall be submitted.

The certificates shall include three certified copies of all tests hereinbefore specified, including friction tests, load tests, peel tests, ultrasonic tests and magnetic particle tests.

6.8 Erection

The pot bearings shall be installed in strict accordance with the manufacturer's recommendations, subject to these special Provisions and the approval of the Engineer.

6.9 Methods of Measurement

No separate measurement will be made for this item.

6.10 Basis of Payment

No separate payment will be made for this item. The cost of this item including all material, equipment and installation costs shall be included in the price bid for other items.

7. DECK JOINT ASSEMBLIES

7.1 Description

This work shall consist of furnishing and installing expansion devices including the seals, anchorage system, hardware, and sliding cover plates, where required, in conformity with the project plans, the requirements of these Special Provisions, and the Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, 1982 Edition, revised to date. Deck joint assemblies shall have the movement rating shown on the project plans.

Materials

Any of the designated types of models of deck joint assemblies manufactured by the following manufacturers or an approved equal will be acceptable:

<u>Manufacturer</u>	<u>Movement Rating</u>
Delastiflex CP200 Wabo Alu-Strip Type III, RV 200E or RV-300E Wabo Bendoflex 250 Steel Flex SS200	Up to 2"
Delastiflex CP300 Wabu Alu-Strip Type III RV-300E Steel Flex SS300	2" - 3"
Delastiflex CP400 Wabu Alu-Strip S-400 Steel Flex SS400 On-Flex 40 SS, Type SC Steel Extrusion	3" - 4"
Wabo Bendoflex 450 Delastiflex DL-450 On-Flex 40 SD, Type SC Steel Extrusion	4" - 4-1/2"

The name, address and telephone number for the manufacturers of the listed deck joint assemblies and the name and telephone number for the factory trained representative to contact are as follows:

<u>Manufacturer</u>	<u>Representative</u>
The D.S. Brown Co. P.O. Box 158 North Baltimore, OH 45872 Phone: (419) 257-3561	John Appleton Phone: (503) 234-3573 or (503) 234-3489
Structural Accessories, Inc. P.O. Box 10 Terryville, CT 06786 Phone: (203) 589-8826	Pete Meyer Phone: (602) 437-1900

Watson-Bowman & Acme Corp.
P.O. Box 9
Getzville, NY 14068
Phone: (716) 691-7566

J. Patrick McGuckin
Phone: (602) 279-4636

If the Contractor elects to furnish an expansion joint not listed above, one of the conditions for approval will be that the Contractor shall furnish for the proposed expansion joint a one year satisfactory service report or data for an installation similar to the proposed conditions and application.

7.2 Construction Requirements

General

Deck joint assemblies shall consist of metal and elastomeric assemblies which are anchored to the concrete over the joint. Strip seal assemblies shall be bolted into a formed recess in the concrete using cast-in-place anchors. The completed assembly shall be in planned position, shall satisfactorily resist the intrusion of foreign material and water and shall provide bump free passage of traffic. Deck joint assemblies shall impart negligible forces to the cast-in-place anchors or bridge members due to expansion or contraction.

For each type and size of seal on a project, one piece of the material supplied shall be at least 18 inches longer than required by the project plans. The additional length will be removed by the Engineer and used for testing by the Materials Section. Certificates of Compliance conforming to the requirements of Subsection 106.05 shall be submitted.

Shop Drawings

Prior to fabrication, the Contractor shall submit eight (8) sets of shop drawings to the Engineer for his approval in accordance with the requirements of Subsection 105.02 of the MAG Standard Specifications. The shop drawings shall show complete details of the cast-in-place anchor layout and the method of installation to be followed, including formed recess details, a temperature correction chart for adjusting the dimensions of the joint according to the ambient temperature and any additions or rearrangements of the reinforcing steel from that shown on the project plans. Shop drawings shall also include any additional steel or other support needed for the joint to function properly.

In determining the quality or subquality of a deck joint assembly submitted for approval for each application, the factors to be considered will include, but will not be limited to, the ability of the assembly to resist the intrusion of the foreign material and water throughout the full range of movement, the capability of installing or removing elastomeric portions of the assembly at any amount of closure, and the ability to function without distress to any component.

Strip Seals

Strip seals shall be of a configuration as determined by each manufacturer and as shown on the project plans. Each seal element shall be marked on the top surface with the manufacturer's name or trademark, the lot number and the size designation.

The strip seal shall be furnished and installed in one continuous length and field splices will not be allowed unless otherwise specified.

Welding

All welding shall be in accordance with the requirements of Subsection 604-3.06.

Armor

Metal for strip seal assemblies shall be aluminum alloy extrusions or steel. Where structural aluminum parts come into contact with concrete, they shall be coated with a coal tar type bituminous paint on the applicable surfaces to the satisfaction of the Engineer. All steel, except A588, shall be hot dip galvanized in conformance with provisions in Subsection 604-3.05.

Painting

No paint is required for metal components made from steel conforming to the requirements of ASTM A 588 and for aluminum conforming to the requirements of ASTM B 221. All other exposed metal surfaces, not in contact with the joint seal or concrete shall be painted in accordance with the requirements of SECTION 610 - PAINTING. The paint shall be one coat each of the Paint Numbers 1, 2, and 3.

Joint Preparation and Installation

Joints to be sealed shall be covered or otherwise protected at all times prior to installing the elastomeric portion of the assembly. The elastomer shall be installed at such time and in such a manner that it will not be damaged by construction operation.

For the strip seal assemblies the Contractor shall employ a factory trained representative of the joint manufacturer to provide on-site technical assistance at the time of the form-out of the recess and the installation of the anchorage, assembly and seal.

Stiffened metal pan forms shall be used to form the recess. The formed recess shall be sandblasted to remove all residue that could effect the adhesion of sealants. Irregularities shall be ground down to a level surface and pits and hollows shall be leveled with an epoxy grout meeting the approval of the Engineer.

If the Contractor elects to form the joint with a secondary concrete pour, the surface of the existing concrete shall be coated prior to the pour with an epoxy specifically formulated for bonding new concrete to the old concrete. The epoxy shall be approved by the Engineer.

Strip seal assemblies that utilize metal side sections shall not be installed into the formed recess until the Contractor has applied a thin bead of sealant, or other approved material, to the horizontal surface of the formed recess. The sealant shall be applied along a line parallel to the centerline of the joint for the joint's entire length. The sealant shall be located such that it will produce a water-tight barrier along both the near edge and far edge of the metal-to-concrete contact area.

The Contractor shall seal the space between the edge of the strip seal assembly side sections and the vertical faces of the formed recess with an approved nonshrink grout or an approved sealant, as recommended by the manufacturer and approved by the Engineer. If the space is sealed with grout, it shall fill the space for its full depth and, if sealant is used, the sealant shall be to a depth of one-half of an inch, minimum.

All anchors shall be re-tightened to the manufacturer's recommended torque at least four hours after initial tightening.

Immediately prior to the installation of the seal element, the metal contact surfaces of the joint armor shall be clean, dry and free of oil, rust, paint or foreign material. The contact surfaces of the seal element shall be cleaned with normal butylacetate, using clean rags or mops, immediately prior to application of the lubricant-adhesive or sealant. The lubricant-adhesive or sealant shall be applied to the seal element and joint armor contact surfaces at the rate recommended by the manufacturer.

The seal element shall be installed in strict accordance with the manufacturer's recommendations, subject to these Special Provisions and the approval of the Engineer, using equipment manufactured specifically for the installation of said element. The equipment shall not cause structural damage to either the seal element or the joint armor and shall not twist, distort, or cause other malformations in the installed seal element. Any perforation or tearing of the seal element due to installation procedures or construction activities will be causes for rejection of the installed seal element.

7.3 Method of Measurement

No separate measurement will be made for Deck Joint Assemblies.

7.4 Basis of Payment

No separate payment will be made for Deck Joint Assemblies. The cost of all labor, materials and equipment necessary for the completion of this item in place shall be included in the price bid for contract items.

8. POST-TENSIONING

8.1 General

The work under this item shall consist of post-tensioning the cast-in-place concrete bridges in accordance with the details shown on the plans and Section 602 of the Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, 1987 Edition revised to date.

8.2 Basis for Payment

Payment for this item will be made at the contract Lump Sum price bid for ITEM 67 - POST-TENSIONING Arizona Canal Bridge, complete in place.

9. SALT RIVER PROJECT CONSTRUCTION SPECIFICATIONS

9.1 General

Construction of the Arizona Canal Bridge shall comply with the following Salt River Project Specifications for Bridge Crossings of Salt River Project Canals.

9.2 Prior to any work being done a construction clearance must be obtained from the SRP Supervisor of Transmission (236-5461).

9.3 Elevations of the proposed bridge floor and underside of the bridge deck are to be verified by the Engineer prior to placing concrete.

9.4 No concrete shall be placed without prior approval of the Engineer.

9.5 Realignment of the canal bank from the existing bank to the tie-in to the wing wall of the bridge is not to exceed 24 to 1 taper.

9.6 The exact length and alignment of retaining walls or wing walls, if required, will be determined in the field at the time of construction by the Engineer prior to setting forms. If the canal bank is disturbed during installation of retaining wall footings, the bank is to be reshaped, compacted, and lined, as directed by the Engineer in accordance with SRP Canal Lining Specifications, CE 3.06.

9.7 The canal bank lining is to be 3 inch thick handplaced concrete or 1-1/2 inch thick pneumatically applied lining (minimum 3,000 psi 28 day strength) placed over 6 inch by 6 inch w1.4 by w1.4 (10 gauge) welded wire fabric. The bank lining under the bridge is to be tied to the underside of the bridge or to the abutment. The lining taper below the bridge is to be no flatter than 1:1 and no shelf will be permitted at the top of the lining. The bank lining is to extend 3 feet beyond the disturbed portion of the bank or to a point opposite 1-foot beyond the furthest end of the Maintenance Equipment Underpass ramp structures, whichever is greater. The lining is to be keyed in with a 12 inch deep cutoff lip for the full perimeter of the lining or is to be tied to the existing lining.

9.8 The canal bottom lining shall be 4 inch thick nonreinforced shotcrete or poured concrete (minimum 2000 psi 28 day strength) unless otherwise specified. The bottom lining is to extend 3 feet beyond the disturbed portion of the bottom or to a point opposite 1' beyond the furthest end of the Maintenance Equipment Underpass ramp structures, whichever is greater. The bottom lining is to be keyed in with a 12 inch deep cutoff lip for the full perimeter or tied to the existing lining.

9.9 If the existing bottom and bank lining does not meet the above requirements, it shall be removed and replaced as specified herein. All bottom and bank preparation is to conform to the minimum standards as stipulated in SRP Specifications CD 3.06.

9.10 All concrete, plaster, or headwalls are to be sprayed with a white pigmented curing compound, immediately after finishing or form removal.

9.11 Any abandoned structures found within the zone of construction are to be completely removed to the Engineer's satisfaction.

9.12 Any material placed in the canal or other SRP facility is to be completely removed to the Engineer's satisfaction.

9.13 The approach ramp material shall consist of a well graded aggregate base in accordance with MAG Specifications Section 702, or a similar material approved by the Engineer, thoroughly mixed with a minimum of 20 percent to a maximum of 40 percent fines (material that will pass the #200 sieve).

9.14 All backfill is to be carefully placed in 8 inch compacted lifts and compacted to a minimum of 90 percent standard Proctor density, ASTM D-698.

9.15 All damage to SRP facilities is to be repaired by the Licensee or his contractor to the Engineer's satisfaction. If emergency repair work is necessary or the Licensee fails to complete all work covered by this License in a reasonable time as determined by the Engineer, this work will be performed by SRP forces and the Licensee agrees to pay the full cost of said work.

10. SPECIAL CONSTRUCTION REQUIREMENTS

10.1 General

The Contractor shall schedule his construction operations so as to install the concrete canal lining during the period of the canal dry-up.

The Contractor is hereby informed that only vehicles with weights conforming to Arizona highway legal loading will be permitted on the newly constructed bridges.

Caisson Alignment and Dimensions: The caissons shall be installed as shown on the design drawings and in accordance with these specifications. No caisson shall be off center from its design location more than three (3) inches at the top of the caisson. No vertical caisson shall be out of plumb more than 1-1/2 percent of its length. Batter caissons shall not deviate more than 5 percent of their lengths from design inclination. All caissons and shafts shall be at least as large in diameter as shown on the design drawings.

DII311.10

BOND ISSUE OR BUDGET PROJECT
CITY OF PHOENIX, ARIZONA
ENGINEERING DEPARTMENT

PROPOSAL to the City Engineer of the City of Phoenix.

In compliance with the Advertisement for Bids, by the City Engineer, the undersigned Bidder:

Having examined the contract documents, site of work, and being familiar with the conditions to be met, hereby submits the following Proposal for furnishing the material, equipment, labor and everything necessary for the completion of the work listed and agrees to execute the contract documents and furnish the required bonds and certificates of insurance for the completion of said work, at the locations and for the prices set forth on the inside pages of this form.

Understands that construction of this project shall be in accordance with all applicable Maricopa Association of Governments' (MAG) Uniform Standard Specifications and Uniform Standard Details, latest revision, and the City of Phoenix Supplements, latest revision to the MAG Uniform Standard Specifications and Details; except as otherwise required by the project plans and specifications.

Understands that his proposal shall be submitted with a proposal guarantee of cash, certified check, cashier's check or surety bond for an amount not less than 5 percent of the amount bid.

Agrees that upon receipt of Notice of Award, from the City of Phoenix, he will execute the contract documents.

Work shall be completed within 270 calendar days, beginning with the day following the starting date specified in the Notice to Proceed. The time allowed for completion of the work includes lead time for obtaining the necessary materials and/or equipment.

The Bidder hereby acknowledges receipt of and agrees his proposal is based on the following Addenda.

ENGINEERING DEPARTMENT - City of Phoenix, Arizona

BID SCHEDULE

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT	AMOUNT	
			UNIT PRICE	
26	REMOVE SWIMMING POOLS	3 EA.		
27	MISCELLANEOUS REMOVAL AND OTHER WORK	1 L.S.		
28	15" STORM DRAIN PIPE	182 L.F.		
29	48" STORM DRAIN PIPE	48 L.F.		
30	CATCH BASIN, TYPE N, SINGLE, C.O.P. DET P-1570	1 EA.		
31	CATCH BASIN, TYPE N, DOUBLE, C.O.P. DET P-1570	1 EA.		
32	CATCH BASIN, TYPE N, TRIPLE, C.O.P. DET P-1570	1 EA.		
33	STORM DRAIN MANHOLE, C.O.P. STD. DTL. P-1520	2 EA.		
34	HEADWALL, M.A.G. DET. 501-1, 501-2, TYPE U	1 EA.		
34A	HEADWALL, M.A.G. DET. 501-3, TYPE 4	1 EA.		
35	PUMP STATION NO. 1	1 L.S.		
36	PUMP STATION NO. 2	1 L.S.		
37	CONSTRUCTION TRAFFIC CONTROL	1 L.S.		
38	REMOVE BUILDINGS	1 L.S.		
SUBTOTALS: I ROADWAYS (ITEMS 1-38)				\$
P-4				

BID SCHEDULE

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
	II. LIGHTING			
39	SQUARE LIGHT POLE (24' & 30')	6 EA.		
40	SHOEBOX LUMINAIRE (150W, HPS)	6 EA.		
41	JUNCTION BOX	25 EA.		
42	SQUARE LIGHT POLE FOUNDATION	6 EA.		
43	JUNCTION BOX (BARRIER-MOUNT)	11 EA.		
44	PULL BOX (#5 & #7)	11 EA.		
45	LOAD CENTER (MOD. TYPE IV)	1 EA.		
46	CONDUIT (1")	1,300 L.F.		
47	CONDUIT (2")	600 L.F.		
48	CONDUIT (2 1/2")	1,800 L.F.		
49	CONDUIT (3")	115 L.F.		
50	CONDUCTOR AWG #00	300 L.F.		

BID SCHEDULE

PAY ITEM NO.	DESCRIPTION	APPROX. QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
	<u>IV. MAINTENANCE EQUIPMENT UNDERPASS</u>			
59	CLASS "A" CONCRETE, f'c = 3000 psi	573 C.Y.		
60	REINFORCING STEEL	85,960 LBS.		
	SUBTOTAL: IV. MAINTENANCE EQUIP. UNDERPASS (ITEMS 59-60)			\$
	<u>V. ARIZONA CANAL BRIDGE</u>			
61	CLASS "AA" CONCRETE, f'c = 6000 psi	5,310 C.Y.		
62	CLASS "A" CONCRETE, f'c = 3500 psi	1,271 C.Y.		
63	CLASS "A" CONCRETE, f'c = 3000 psi	2,713 C.Y.		
64	REINFORCING STEEL	1,949,545 LBS.		
65	36" DIAMETER CAISSON	5,324 L.F.		
66	60" DIAMETER CAISSON	1,784 L.F.		
67	POST-TENSIONING	1 L.S.		
	SUBTOTAL: V. ARIZONA CANAL BRIDGE (ITEMS 61-67)			\$

SUMMARY

I.	ROADWAY	\$ _____
II.	LIGHTING	\$ _____
III.	UTILITIES	\$ _____
IV.	MAINTENANCE EQUIPMENT UNDERPASS	\$ _____
V.	ARIZONA CANAL BRIDGE	\$ _____
TOTAL AMOUNT OF BID ITEMS 1 THRU 67 INCLUSIVE		\$ _____

& _____/100 Dollars

Written Words

DI1311.12

THIS PROPOSAL IS SUBMITTED BY _____

a corporation organized under the laws of the State of _____

a partnership consisting of _____

or individual trading as _____

of the City of _____.

Arizona License - Classification _____ No. _____

City of Phoenix Privilege License No. _____

FIRM _____

ADDRESS _____

CITY _____ STATE _____

ZIP CODE _____

* BY _____

Officer and Title

Date

Phone Number

ATTEST:

Officer and Title

Witness: If Bidder is an
Individual

* By signing this proposal, I certify that I have read and understand the prequalification requirements in the Information for Bidders (page I.B.-1) and the firm, for whom I am signing, has a current approved category as listed.

* See page I.B.- 1 for section on Contractor's License.

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 City of Phoenix Civic Improvement Corporation, as Obligee, in the sum of five percent (5%) of the total amount of the bid of Principal, submitted by him to the City of Phoenix Civic Improvement Corporation 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, administrators, successors and assigns, jointly and severally, firmly by these presents, and in conformance with A.R.S. #34-201.

WHEREAS, the said Principal is herewith submitting its proposal for _____

NOW, THEREFORE, if the City of Phoenix Civic Improvement Corporation shall accept the proposal of the Principal and the Principal shall enter into a contract with the City of Phoenix Civic Improvement Corporation 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 Bonds and Certificates of Insurance, if the Principal shall pay to the City of Phoenix Civic Improvement Corporation 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., 19 _____.

Principal

Title

Witness:

Surety

Title

Witness:

AFFIDAVIT BY CONTRACTOR
CERTIFYING THAT THERE WAS
NO COLLUSION IN BIDDING
FOR CONTRACT

STATE OF ARIZONA)
) ss
COUNTY OF MARICOPA)

(Name of Individual)

BEING DULY SWORN, DEPOSES AND SAYS:

That he is _____
(Title)

of _____
(Name of Business)

That Pursuant to Section 34-253 of the Arizona Revised Statutes, he certifies as follows:

That neither he nor anyone associated with the said _____

(Name of Business)

has directly, or indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this project.

(Name)

(Title)

(Name of Business)

Subscribed and sworn to before me this _____ day of _____ 19____.

My Commission Expires:

(Notary Public)

AN IMPORTANT FIRST STEP

**FOR ALL CONSTRUCTION CONTRACTORS,
AND THEIR SUB-CONTRACTORS**

Prior to award on construction contracts in excess of \$10,000, all prime contractors and their sub-contractors, must submit three reports to the Equal Opportunity Department, 251 West Washington, Phoenix, Arizona 85003, telephone (602) 262-6790.

The Reports Are:

An Affirmative Action Plan
An Employers Information Report
An Equal Employment Questionnaire

You may pick up the report forms at the above office or you may call and the report forms will be mailed.

These reports are required by a City Ordinance G-1327, as amended by G-1901, enacted by the City Council in the interest of equal employment opportunity City wide. To demonstrate that it provides equal opportunities to minorities and women a firm should have an Affirmative Action Program. Such a program establishes positive procedures that will assist the firm achieve employment parity.

Your firms Affirmative Action Program should be designed to achieve equal employment opportunity within your employee ranks which includes; Blacks, Hispanics, Asians, Native Americans and Women.

**DON'T RISK THE LOSS OF A CONTRACT! FOR EVERYONE'S
CONVENIENCE, SUBMIT YOUR REPORTS NOW TO THE EQUAL OPPORTUNITY
DEPARTMENT.**

If you have any questions, call (602) 262-6790.