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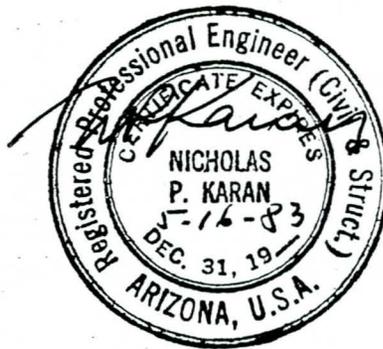
SPECIAL PROVISIONS
FOR

59th Avenue Bridge

over

Arizona Canal Diversion Channel

CONTRACT NO. FCD 83-20



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

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CONTRACT NO. FCD 83-20

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INVITATION FOR BIDS
(Construction Contract)

Project: 59th Avenue Bridge
over Arizona Canal
Diversion Channel

Ref. Invitation FCD 83-20
Date: April 27, 1983
Issued by: Flood Control District
Maricopa County

Location: 59th Avenue, south of
Thunderbird Road, Glendale, Arizona

SEALED BIDS, IN SINGLE COPY FOR THE WORK DESCRIBED HEREIN WILL BE RECEIVED UNTIL 1:30 p.m. LOCAL TIME AT THE PLACE OF THE BID OPENING, June 23, 1983 IN THE OFFICE OF THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY, 3335 WEST DURANGO STREET, PHOENIX, ARIZONA 85009, AND AT THAT TIME PUBLICLY OPENED.

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

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

DESCRIPTION OF WORK:

Construction of a five-span continuous pre-stressed girder bridge, detour, approach roadway and related items.

THE WORK SHALL COMMENCE WITHIN Seven (7) CALENDAR DAYS AND BE COMPLETED WITHIN ONE HUNDRED EIGHTY (180) CALENDAR DAYS AFTER RECEIPT OF THE NOTICE TO PROCEED.

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

A pre-bid conference will be held at the Flood Control District office on June 1, 1983 at 10:00 a.m. It is in the best interest of prospective bidders to attend.

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

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
INVITATION FOR BIDS, FCD 83-20
INSTRUCTIONS TO BIDDERS

1. Explanation to Bidders. Any explanations desired by the bidder, questions, or items for clarification regarding the meaning or interpretation of the invitation for bids, drawings, specification, etc., may be addressed to the Chief Engineer and General Manager, preferably in writing, prior to the pre-bid conference. Any answers, interpretations or clarifications affecting the cost will be addressed to all bidders in an addendum to the invitation. The receipt of an addendum by the bidder must be acknowledged in the space provided on the bid form or by letter or telegram received before the time set for the bid opening. Oral explanations or instructions given before the award of the contract will not be binding.
2. Conditions Affecting the Work. Bidders should visit the site and take such other steps as may be reasonably necessary to ascertain the nature of the work, the general and local conditions which can affect the work and the cost thereof. Failure to do so will not relieve bidders from responsibility for estimating properly the difficulty or cost of successfully performing the work. (See MAG 102.4)
3. Bidder's Qualifications. Before a bid is considered for award, a bidder may be requested by the Chief Engineer and General Manager of the Flood Control District to submit a statement regarding his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the work.
4. Bid Guarantee. Where a bid guarantee is required by the invitation for bids, failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

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

5. Preparation of Bids. Bids shall be submitted on the forms furnished, or copies thereof, and must be manually signed. If erasures or other changes appear on the forms, each erasure or change must be initialed by the person signing the bid. Unless specifically authorized in the invitation for bids, telegraphic bids will not be considered.

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

Unless called for, alternate bids will not be considered.

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

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

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
INVITATION FOR BIDS, FCD 83-20
SPECIAL INSTRUCTIONS TO BIDDERS

Location of the Work

59th Avenue, south of Thunderbird Road, Glendale, Arizona

Contract Plans, Special Provisions and Contract Documents: Plans, Special Provisions, and forms for proposal, Bidding Schedule, Contract Agreement and Performance Bond may be obtained from the Flood Control District of Maricopa County, 3335 West Durango Street, Phoenix, Arizona, upon payment of \$25.00 by check payable to the FLOOD CONTROL DISTRICT OF MARICOPA COUNTY. This payment will not be refunded. Plans sheets may be purchased separately for a fee of \$16.50, not refundable.

APPROXIMATE QUANTITY

<u>QUANTITY</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
40	Ea.	Pre-cast Concrete Girders
944,325	Lb.	Reinforcing steel
1019	C.Y.	Class "S" Concrete, 4000 psi (7 sack min.)
1710	C.Y.	Class "S" Concrete, 4500 psi
1088	C.Y.	Class "S" Concrete, 4000 psi
232	C.Y.	Class "S" Concrete, 3000 psi
773	L.F.	Drilling Belled shaft-Piers
622	L.F.	Drilling Shafts - Abutment

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

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

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
(Construction Contract)

BID FORM

Project: 59th Avenue bridge over
Arizona Canal Diversion
Channel

Invitation FCD 83-20
Date: April 27, 1983

Location: 59th Avenue, south of
Thunderbird Road, Glendale,
Arizona

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

The following Proposal is made on behalf of _____

_____ and no others. The Total contract
amount of this proposal is (in words) _____

_____ and _____/100 dollars, (in figures)

_____. This amount being the sum total of the extended
amount for each pay item on the Bidding Schedule.

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

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

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

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

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

BIDDING SCHEDULE

Project: 59th Avenue Bridge over
Arizona Canal Diversion Channel

Contract: FCD 83-20

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
211	5460	C.Y.	Roadway Embankment			
215	1	L.S.	Channel Excavation			
220	1566	C.Y.	Rock Riprap			
301	5613	S.Y.	Subgrade Preparation			
310-1	1277	Ton	Select Material			
310-2	1506	Ton	Aggregate Base Course			
315	7	Ton	Bituminous Prime Coat			
321-1	520	Ton	C-3/4, Asphalt Concrete			
321-2	163	Ton	E-3/8, Asphalt Concrete			
321-3	1	Ton	Bituminous Tack Coat SS-1h (Contingent It.)			

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

BIDDING SCHEDULE

Project: 59th Avenue Bridge over
Arizona Canal Diversion Channel

Contract: FCD 83-20

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
321-4	1	Ea.	Asphalt Concrete Spillway - Type A			
321-5	1	Ea.	Asphalt Concrete Spillway - Type B			
340-1	226	L.F.	Concrete Curb and Gutter - Det. 220			
340-2	737	S.F.	Concrete Sidewalk - Det. 230			
340-3	704	S.F.	Concrete Driveway Entrance - Det. 250			
350-1	1	L.S.	Remove Exist. Canal Bridge			
350-2	1	L.S.	Remove Exist. Radial Gate Structure			
350-3	115	L.F.	Remove Exist, 48" Pipe			
350-4	148	L.F.	Remove Exist, 24" Pipe			
350-5	896	S.Y.	Remove Exist. Concrete Pavement			

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

BIDDING SCHEDULE

Project: 59th Avenue Bridge over
Arizona Canal Diversion Channel

Contract: FCD 83-20

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
350-6	1	L.S.	Miscellaneous Removals			
401	1	L.S.	Traffic Control			
415	112.5	L.F.	Guardrail; ADOT C-10.01			
502-1	622	L.F.	Drilling Shaft Foundations-Abutments			
502-2	773	L.F.	Drilling Belled Shaft Foundations - Piers			
505-1	1019	C.Y.	Class "S" Concrete $f_c' = 4000$ psi (7 sack min)			
505-2	1088	C.Y.	Class "S" Concrete, $f_c' = 4000$ psi			
505-3	1710	C.Y.	Class "S" Concrete, $f_c' = 4500$ psi			
505-4	232	C.Y.	Class "S" Concrete $f_c' = 3000$ psi			
505-5	944,325	Lb.	Reinforcing Steel			

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

BIDDING SCHEDULE

Project: 59th Avenue Bridge over
Arizona Canal Diversion Channel

Contract: FCD 83-20

Item No.	Approximate Quantity	Unit	Description	Unit Cost (in writing) and /100 dollars	Unit Cost	Extended Amount
506	40	Ea.	Precast Concrete Girders (prestressed or post-tensioned)			
520-1	1260	L.F.	Pedestrian Railing			
610-1	664	L.F.	12" Ductile Iron Pipe			
610-2	1	Ea.	Install Water Valve Box, Type "A" - MAG 391-1			
610-3	1	Ea.	Adjust Type "B" Water Valve box to grade			
610-4	619	L.F.	Concrete Encasement Detail 402			
610-5	1000	Lb.	Ductile Iron Fittings (in excess of fittings shown on plans)			

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

Total _____

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

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

Date: _____, 19____.

IF BY AN INDIVIDUAL:

(Name) (Address)

IF BY A FIRM OR PARTNERSHIP:

(Firm Name) (Firm Address)

By: _____

*Name and Address of Each Member:

Date: _____, 19____.

IF BY A CORPORATION:

(Corporate Name) (Corporation Address)

By: _____

**Incorporated under the Laws of _____

Names and Addresses of Officers:

(President) (Address)

(Secretary) (Address)

(Treasurer) (Address)

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

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

CONSTRUCTION SPECIAL PROVISIONS
FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
59TH AVENUE BRIDGE OVER
ARIZONA CANAL DIVERSION CHANNEL
DETOUR & APPROACH ROADWAYS
FCD 83-20

LOCATION OF THE WORK: This project is located on 59th Avenue over the Arizona Canal Diversion Channel and is approximately 1400 feet south of the intersection of Thunderbird Road.

PROPOSED WORK: The work consists of constructing a five-span continuous prestressed girder bridge, detour, north approach roadway, and other miscellaneous items of work required for the completion of the project.

SPECIFICATIONS: The work embraced herein and as shown on the plans for the construction of this project shall be done in accordance with the Maricopa Association of Governments' Uniform Standard Specifications for Public Works Construction, dated 1979, and the current revisions thereto, together with the Maricopa County Highway Department Supplement to the Uniform Standard Specifications, adopted August 3, 1981, and October 19, 1981, and the Construction Special Provisions contained herein.

CONTRACT TIME: The Contractor shall complete all work on the project within one hundred eighty (180) calendar days after the Notice to Proceed.

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

ITEM COMMENTS: The herein contained Construction Special Provisions supplement the Uniform Standard Specifications and the Maricopa County Highway Department Supplement to the Uniform Standard Specifications; however, in case of conflict, these Special Provisions supersede the Uniform Standard Specifications and the Maricopa County Supplement.

MATERIAL SOURCES: Fill for the roadway embankment may be obtained from roadway excavation and from the future Arizona Canal Diversion Channel. Excavation in the future channel shall be to the lines and grades as shown on the plans. The excavation shall be uniform and the area shall be bladed to a level condition upon completion. Select material, aggregate base and mineral aggregate may be obtained from commercial sources. However, if the Contractor elects to secure material from other sources, he shall pay all royalties or any other charges or expenses incurred in connection with the securing and hauling of the material. The Contractor will be required to furnish the Engineer with a list of his proposed commercial sources prior to use, and shall present satisfactory evidence that the material produced from any commercial source will meet Maricopa County Standard Specifications and these Special Provisions for such material.

SOIL BORING REPORT: A copy of the soil boring report is available for viewing at the offices of the Maricopa County Flood Control District.

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

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

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

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

Change the definition of Owner to read as follows: The Flood Control District of Maricopa County, acting through its legally constituted officials, officers or employees.

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

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

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

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

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

SECTION 105.2 - PLANS AND SHOP DRAWINGS: The number of copies of shop drawings required for review and/or approval shall be as follows:

Initial submittal: Three (3) copies. One (1) copy will be returned to the Contractor.

Final Submittal: Five (5) copies. Two (2) copies will be returned to the Contractor.

SECTION 105.6 - COOPERATION WITH UTILITIES: Should the Contractor's operations result in damage to any utility the location of which has been brought to his attention, he shall assume full responsibility for such damage.

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

Flood Control District.....	262-1501
Mountain Bell Telephone Company.....	263-3219
Salt River Project.....	273-2202
Arizona Public Service.....	271-7014
Location Staking (A.P.S., Mtn. Bell, S.R.P.).....	263-1100
City of Glendale.....	931-5673
Maricopa County Highway Department.....	262-3631

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

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

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

SECTION 108.9 FAILURE TO COMPLETE ON TIME: The amount of \$350.00 per calendar day, or the actual cost per calendar day incurred by the District for Engineering and Inspection Services on this project, whichever is less, will be added to the daily charges as indicated by TABLE 108, LIQUIDATED DAMAGES, and will be deducted from monies due or to become due to the contractor for each and every calendar day that work shall remain uncompleted after the time specified for the completion of the work in the proposal, or as adjusted by the Engineer.

SECTION 205 ROADWAY EXCAVATION: Roadway excavation shall conform to Section 205 of the Uniform Standard Specifications.

No separate payment will be made for this item. Payment for all work under this section, including watering and compacting, shall be included in ITEM 211 - FILL CONSTRUCTION.

SECTION 206 - STRUCTURE EXCAVATION AND BACKFILL: Structure excavation and backfill shall conform to Section 206 of the Uniform Standard Specifications. The limits of structure excavation and backfill shall be as indicated on the plans.

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 free-draining granular material. Backfill should 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 should be maintained at least two (2) feet from the structure.

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.

SECTION 210 - BORROW EXCAVATION: Borrow excavation shall consist of the furnishing and placing of borrow material in the roadway embankments in accordance with Section 210 of the Uniform Standard Specifications and as shown on the plans.

No separate payment will be made for this item. Payment for all work under this section, including watering and compacting, shall be included in ITEM 211 - FILL CONSTRUCTION.

SECTION 211 - FILL CONSTRUCTION: The work under this section consists of constructing embankments for the detour and approach roadways. The material required for the construction of the fill shall be suitable material obtained from roadway excavation or the Arizona Canal Diversion Channel excavation and shall be free of all debris and vegetation.

Prior to the placement of fill material, all loose soil, vegetation, any roadside debris, concrete pavement, and existing structures within the proposed fill areas shall be completely removed. Depressions and ditches shall be cleaned of all loose or wet soils and widened to accommodate compaction equipment. Sloping surfaces shall be benched to provide a level surface for fill placement.

All exposed subgrade surfaces shall be scarified, brought to the proper moisture content and compacted for a minimum depth of eight (8) inches.

The fill shall be compacted in horizontal lifts to subbase level. The depth of the uncompacted lifts shall not exceed eight (8) inches.

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

The earthwork quantities shown on the plans are approximate and were determined during the design process. They are included to aid the bidder in formulating his bid.

The quantities of fill required to construct embankments for the detour and approach roadways will be those of the completed bid item, in place, measured from the original ground surface, within the limits of the dimension, shown on the plans. Volume will be computed by the average end area method.

Payment for all work under this section will be made at the unit price bid per cubic yard for ITEM 211 - ROADWAY EMBANKMENT, which price shall include placing, water, and compaction of fill construction.

SECTION 215 - EARTHWORK FOR OPEN CHANNELS: Earthwork for open channels shall consist of excavation and grading of the Arizona Canal Diversion Channel to the lines and grades as shown on the plans in accordance with Section 215 of the Uniform Standard Specifications.

Material excavated under this item may be used for roadway embankment and dike construction provided that it meets the requirements of SECTION 210 - BORROW EXCAVATION. Material that is determined to be unsuitable for use in roadway embankments and dikes shall be disposed of within the Arizona Canal Diversion Channel right-of-way. Material that is disposed of in this manner shall be spread evenly to a maximum depth of not over ten (10) feet, and shall be done in the manner that will not block or divert the natural drainage.

The Contractor may increase the extent of longitudinal channel excavation for his convenience, at his option, at no additional cost to the Owner. However, the final channel width and side slopes shall be as shown on the plans.

Payment for all work under this section will be made at the lump sum bid for ITEM 215 - CHANNEL EXCAVATION, which price shall include excavation, grading, construction of 5-foot flood protection dike, and disposal of excess material excavated from the Arizona Canal Diversion Channel as indicated on the plans.

SECTION 220 - RIPRAP CONSTRUCTION: Riprap construction shall consist of furnishing and placing to the lines and grades shown on the plans and according to Section 220 of the Uniform Standard Specifications.

Stone shall conform to Section 703 of the Uniform Standard Specifications, except that the minimum stone size shall be that retained on a four (4) inch screen and 50% of the stone shall be not less than that retained on a six (6) inch screen.

Measurement for payment will be made based on the in-place volume within the limits of the dimensions shown on the plans. The volume of plain riprap will be computed from the plan dimensions.

Payment for all work under this section will be made at the unit price bid per cubic yard for ITEM 215 - ROCK RIPRAP, which price shall include all excavation and backfill necessary to complete the riprap construction as shown on the plans.

SECTION 301 - SUBGRADE PREPARATION: Subgrade preparation shall consist of shaping the roadway subgrades to the grades and cross-sections for the new detour road and the bridge approaches as shown on the plans and in accordance with Section 301 of the Uniform Standard Specifications. This item shall also include all work necessary for the construction of ditches, any excavation, filling, grading, shaping and miscellaneous grading work between the back of curb or edge of pavement and the right-of-way or construction easement.

Subsection 301.3 - RELATIVE COMPACTION, should be modified as follows:

- | | |
|------------------------------------|------------|
| (B) Other streets and traffic ways | 95 percent |
| (C) Curbs, gutters and sidewalks | 90 percent |

Payment for all work under this section shall be at the contract unit price per square yard bid for ITEM 301 - SUBGRADE PREPARATION.

SECTION 310 - UNTREATED BASE: Select Material and Aggregate Base shall conform to the requirements of Section 702 of the Uniform Standard Specifications. Select Material and Aggregate Base shall be crushed in accordance with Section 702.2. Select Material shall be Type "A."

The Contractor will be required to furnish the Engineer certified weight tickets covering all of the Select Material and Aggregate Base placed on the project. Final pay quantities will be based upon the scale tickets accepted by the Engineer.

SECTION 315 - BITUMINOUS PRIME COAT: The bituminous material shall be Grade MC-70 or MC-250 liquid asphalt. Prime coat shall be applied at the rate of 0.4 gallon per square yard unless otherwise specified by the Engineer. The Engineer shall determine whether prime coat will be used.

SECTION 321 - ASPHALT CONCRETE PAVEMENT: Asphalt concrete pavement shall consist of furnishing and placing a plant-mixed asphalt concrete road surfacing material to the compacted thickness shown on the plans and in accordance with Section 321 of the Uniform Standard Specifications.

Bituminous material shall be AR-4000 paving asphalt conforming to Section 710 and 711 of the Uniform Standard Specifications or AC-30 complying with ADOT Table 705-1 as modified October 16, 1981.

The mineral aggregate shall meet the grading requirements within the range of the specified tolerances for Mix-Designation C-3/4 or E-3/8 in accordance with Section 710 of the Uniform Standard Specifications and Maricopa County Highway Department Supplement to the Uniform Standard Specifications.

The work shall fully comply with Section 321 except that no mineral filler or blending sand will be required.

In addition to pugmill type mixing plants, drum dryer mixers will be allowed in accordance with the Uniform Standard Specifications Section 710.8. The moisture content of the bituminous mixture immediately behind the paver shall not exceed three percent. If a drum dryer is used, the type of oil shall be AR-8000 or AC-30 as specified above.

The proper proportioning of the material at the cold feed shall be determined by the Contractor and approved by the Engineer prior to the production of asphalt concrete. Production shall not commence until calibration tests indicate that an acceptable product can be obtained.

The correct proportions of each aggregate size introduced into the mixer shall be drawn from the storage bins by an approved type of continuous feeder which shall supply the correct amount of aggregate in proportion to the bituminous material and shall be so arranged that the proportion of each aggregate size can be separately adjusted. The continuous feeder for the aggregate may be mechanically or electrically activated.

The plant shall be equipped with a sampling device to take representative composite samples of the cold feed. If tests indicate non-compliance with specifications, operation shall cease until proper corrections have been made.

The production of the plant shall be governed by the rate required to obtain a thorough and uniform mixture of the materials. Mixing shall continue until the uniformity of coating, when tested in accordance with the requirements of AASHTO T-195, is at least 95 percent.

The Contractor shall furnish certified weight tickets covering all plant-mixed asphalt concrete placed on the project.

Payment for this item will be made at the contract unit price bid per ton for ITEM 321-1 C-3/4 - ASPHALT CONCRETE and ITEM 321-2 E-3/8 - ASPHALT CONCRETE SURFACE COURSE.

SECTION 340 - CONCRETE CURB AND GUTTER, SIDEWALK AND DRIVEWAYS: Work under this item shall conform to Section 340 of the Uniform Standard Specifications and shall include concrete curb and gutter, concrete sidewalk and concrete driveway entrance.

All concrete shall be Class B and shall conform to Section 725 of the Uniform Standard Specifications.

All concrete items shall conform to the Standard Details and the details shown on the plans.

Payment for these items will be made at the unit price bid per lineal foot for ITEM 340-1 - CONCRETE CURB & GUTTER, and the unit price bid per square foot for ITEM 340-2 - CONCRETE SIDEWALK, and ITEM 340-3 - CONCRETE DRIVEWAY ENTRANCE.

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

The removal of the existing asphalt concrete pavement necessary to construct the new pavement and the removal of the asphalt concrete surface on the detour at the end of construction shall be included in this item. Excavation necessary to remove the existing concrete pavement will be paid for under ITEM 215 - CHANNEL EXCAVATION.

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

If a Maricopa County landfill is selected for disposition of road construction waste and/or debris, a Maricopa County Landfill Use Permit will be required. Application for permit can be made at the Maricopa County Landfill Office, located at 3325 West Durango Street, Phoenix, Arizona 85009 (Telephone 269-2661). Charges will be levied on a volume basis for each load delivered to the landfill in accordance with the current fee schedule.

After the traffic is returned to 59th Avenue, the Contractor shall remove the surfacing on the detour and scarify a minimum of 100 feet at each end or as specified on the plans. The disposal of the asphaltic concrete shall be the responsibility of the Contractor.

Payment for this item will be made at the contract lump sum price bid for ITEM 350-1 - REMOVAL OF EXISTING CANAL BRIDGE, ITEM 350-2 - REMOVAL OF EXISTING RADIAL GATE STRUCTURE, ITEM 350-6 - MISCELLANEOUS REMOVALS, and the contract price per square yard for ITEM 350-5 - REMOVAL OF EXISTING CONCRETE PAVEMENT, and the contract price bid per linear foot for ITEM 350-3 - REMOVE EXISTING 48" PIPE, and ITEM 350-4 - REMOVE EXISTING 24" PIPE.

SECTION 401 - TRAFFIC CONTROL: Traffic control shall conform to the applicable paragraphs of Section 401 of the Uniform Standard Specifications, the City of Phoenix Barricade Manual and as specified herein.

The number and types of barricades, signs, delineators, barriers and all other traffic control devices shall be subject to approval. However, approval of traffic control devices and the approval of the Contractor's method of application of all traffic control measures shall not relieve the Contractor of the responsibility of protecting the work, the workmen and the traveling public.

The Contractor shall provide and maintain safe and adequate access, including pavement surfacing of the detour for two-way traffic, at all times. Detour to bypass the construction zone shall be as shown on the plans. Construction and detour advance warning signs shall be 48 inches in size and shall be installed 1500, 1000 and 500 feet prior to the construction zone at each end. A five (5) foot high deceleration berm of loose sandy material with nothing over three inches in size shall be placed completely over the paved portion of the road on each approach to the bridge. Internal construction barricading and signing shall be required to provide access and guide traffic through the zone with a speed posted at 25 miles per hour.

Contractor shall not reduce lanes on 59th Avenue or the detour without approval of the Engineer.

All necessary signs and barricades shall remain three working days beyond acceptance of the project by the Owner.

Payment for providing and maintaining traffic control will be at the lump sum bid price in the proposal. Such prices shall include all traffic control devices and traffic control measures, such as warning and control signs, barricades, lighting devices, paint striping, delineators, flagmen and other appurtenant items related to traffic control and safety. Included in the price shall be the maintenance of the detour pavement surface for the full length of the project including prompt repair of all bumps and holes and pavement striping of the detour and the finished roadway.

SECTION 415 - FLEXIBLE METAL GUARDRAIL: The work under this item shall conform to the Arizona Department of Transportation Standards C-10.01, C-10.01.1, C-10.12, C-10.13; Section 415 of the Uniform Standard Specifications; and the details shown on the plans.

Payment will be made at the contract unit price bid per lineal foot for ITEM 415 - GUARDRAIL, ADOT STANDARD C-10.01.

SECTION 424 - PARKWAY GRADING: Parkway grading shall be in accordance with Section 424 of the Uniform Standard Specifications.

Parkway grading will not be a separate pay item and all costs for this item shall be included under ITEM 301 - SUBGRADE PREPARATION.

SECTION 502 - DRILLED SHAFT FOUNDATIONS: The work under this section shall govern the construction of foundations consisting of "reinforced cast-in-place concrete shafts." Shafts shall be constructed in accordance with the details and dimensions shown on the plans. Drilled shafts shall be considered that portion of the piers below elevation 1183.33 and that portion of the abutments below the cap beam.

All concrete materials shall be in accordance with the requirements of Section 725 of the Uniform Standard Specifications. Reinforcing steel shall conform to the requirements of Section 727 of the Uniform Standard Specifications.

All holes shall be examined for straightness and any hole which, on visual inspection from the top, shows more than six (6) inches deviation from the center of the hole at the bottom shall be rejected and redrilled at no additional cost to the Flood Control District. 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 roadway 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 one foot below the 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 accomplished 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.

Concrete Mix Design: Portland Cement concrete shall be of an exceptionally rich pumpable mixture which will settle under its own weight. Concrete used shall not contain less than 658 pounds of cement per cubic yard. The concrete slump shall not exceed four (4) inches. Admixtures, as needed to prevent segregation of the mix and allow free flow through the placing equipment, may be added by the Contractor. Type II Low Alkali Portland Cement shall be used.

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 the minimum capacity of pumping sixty (60) cubic yards per hour at a pumping head of two hundred (200) feet.

The Contractor shall 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 on 45 minutes or less notice.

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.

Non-Destructive Testing: If in the opinion of the Engineer it is necessary to test the soundness of the concrete placed under this section, the testing will be accomplished by a non-destructive method.

The Contractor shall install four (4), two (2) inch I.D. Schedule 80 PVC pipe axially into each bore hole. The pipe shall be tied to the reinforcing cage and capped at the bottom and located as shown on the plans. No separate payment will be made for the furnishing and placing of the two-inch PVC pipes.

The non-destructive testing, if required, will be performed by the County under separate contract and will be accomplished at no cost to the Contractor.

Payment for the drilled shaft foundations will be paid at the contract unit price bid per lineal foot for ITEM 502-2 DRILLING SHAFT FOUNDATIONS - PIERS and ITEM 502-1 DRILLING SHAFT FOUNDATIONS ABUTMENTS. The concrete for the drilled shaft foundations shall be paid for at the unit price bid per cubic yard for ITEM 505-1 - CLASS "S" CONCRETE f'c = 4000 PSI - (7 SACK MIN.) within the limits of the dimensions shown on the plans. Reinforcing steel shall be paid for at the unit price bid per pound for ITEM 505-5 - REINFORCING STEEL.

SECTION 505 - CONCRETE STRUCTURES: The work under this section shall consist of furnishing all labor, materials and equipment for the construction of the cast-in-place concrete portions of the bridge structure, including the approach slabs and sidewalks, in accordance with the plans and Section 505 of the Uniform Standard Specifications.

Portland Cement concrete shall be Class "S" conforming to Section 502 and Table 502.1 of the Arizona Department of Transportation Standard Specifications dated 1969 and all revisions.

The following strengths of Class "S" concrete shall be furnished;

505-1	Drilled Caissons	$f'_c = 4000$ psi (7 sacks min.)
505-2	Columns & Cap Beams	$f'_c = 4000$ psi

Structural steel items imbedded in the concrete are incidental to Class AA concrete.

Reinforcing steel shall conform to the requirements of Sections 727 of the Uniform Standard Specifications.

No separate payment will be made by grade for reinforcing steel Grade 40 and Grade 60. Reinforcing steel shall be included in the unit price bid for Item 505-5.

505-3	Deck Slab & Diaphragms	$f'_c = 4500$ psi,
505-4	All Other Concrete	$f'_c = 3000$ psi

Payment for all work under this Section will be made at the unit price bid per cubic yard for ITEMS 505-1 through 505-4 Class "S" concrete and unit price bid per pound for ITEM 505-5 - REINFORCING STEEL.

SECTION 506 - PRECAST PRESTRESSED CONCRETE GIRDERS: The work under this section shall consist of furnishing and erecting the bridge girders as shown on the plans in accordance with the A.A.S.H.T.O. Standard Specifications for Highway Bridges dated 1977 and Section 506 of the Uniform Standard Specifications.

Portland Cement Concrete for Precast Prestressed Girders shall conform to Section 502 & Table 502-1 of the Arizona Department of Transportation Specifications dated 1969 including all revisions.

Class "S" Concrete $f'_c = 5500$ psi

The Contractor may, at his option, post-tension the girders in accordance with Section 506 of the Uniform Standard Specifications.

The elastomeric bearing pads shall meet the requirements of Section 25 - Elastomeric Bearings of the A.A.S.H.T.O. Standard Specifications for Highway Bridges dated 1977 (revised to date).

The structural steel anchors shall conform to Section 770 of the Uniform Standard Specifications.

No separate payment will be made for the elastomeric bearing pads, structural steel, anchor bolts, prestressing or post-tensioning steel, reinforcing steel or other embedded items necessary to the furnishing of the girders complete-in-place.

Payment will be at the unit price bid per each for ITEM 506 - PRECAST-- CONCRETE GIRDERS (PRESTRESSED OR POST-TENSIONED).

SECTION 520 - PEDESTRIAN HANDRAIL: The work under this section consists of the construction of a pedestrian rail on the bridge deck and abutments as shown on the plans and in accordance with Section 520 of the Uniform Standard Specifications.

Payment for this item will be made at the contract unit price bid per lineal foot for ITEM 520-1 - PEDESTRIAN HANDRAIL.

SECTION 610 - 12" WATER LINE: The work under this section consists of the construction of the new 12" water line bypass on the east side of the new structure as shown on the plans and in accordance with Section 610 of the Uniform Standard Specifications. The 12" water line shall be tested in an isolated condition prior to connecting to the existing system. The water line shall be 12" mechanical joint ductile iron pipe, class 50.

Measurement shall be in accordance with Section 610.18 of the Uniform Standard Specifications.

Payment will be made at the unit price bid for ITEM 610-1 - 12" DUCTILE IRON PIPE, ITEM 610-2 - VALVE BOX AND COVER TYPE A, and ITEM 610-3 - ADJUST VALVE BOX AND COVER TYPE B, ITEM 610-4 - CONCRETE ENCASEMENT and Item 610-5 - DUCTILE IRON FITTINGS (in excess of fittings shown on plans). The cost of concrete thrust blocks shall be included in the respective bid item.

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

An attempt has been made to determine the location of all underground utilities; however, it shall be the Contractor's responsibility to cooperate with the pertinent utility companies so that any obstructing utility installation may be adjusted.

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

The Contractor shall coordinate his work with the Salt River Valley Water Users Association forces during the installation of their facilities on this project.

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

It shall be the Contractor's responsibility to protect the structure and construction site from damage that may occur during the construction period and until final acceptance of the completed bridge by the Flood Control District.

Upon completion of the construction, the Contractor shall clear the work area of all debris to the satisfaction of the Engineer.

No vehicular loads will be permitted on the bridge before the lapse of twenty-one (21) days from the date of the last pour of concrete for the bridge deck, unless approval is obtained in writing from the Engineer. The Contractor shall take special precautions to keep the area around the bridge properly barricaded and marked with flares to prevent automotive traffic from crossing the new bridge structure prior to the acceptance of the completed project by the Flood Control District Engineer. The installation of any necessary conduits, brackets, or piping or any other facility or work which may be performed for the accommodation of any utility, shall be paid for by the utility owner. The Contractor shall make all arrangements that may be necessary for the construction and any financial agreement shall be solely between the Contractor and the utility owner.

PRECAST PRESTRESSED CONCRETE FORMS: With the approval of the Engineer, the concrete deck may be constructed as a composite section utilizing concrete form panels conforming to the plans and these specifications in lieu of conventional full depth cast-in-place construction. If the Contractor elects to use a different concrete panel than detailed in the plans, the Contractor shall submit for approval by the Engineer, detailed drawings of the alternate deck system and design computations for the composite slab and concrete panels complying with the latest AASHTO design specifications and requirements detailed herein.

Materials for use in the precast-prestressed concrete panels shall conform to Section 506 and the following requirements:

1. Concrete shall be Class "S" $f'_c = 4500$ psi.
2. Prestressing steel shall be Type^C 250k or 270k strand.
3. Deformed reinforcing steel may be Grade 40 or 60.
4. Welded deformed steel wire fabric shall conform to ASTM A-497.
5. Panels with elements less than 3-1/2 inches thick shall require aggregate graded as follows:

<u>U. S. Sieve Size</u>	<u>Percent Passing</u>
1/2"	100
3/8"	95-100
No. 4	30-60
No. 10	0-15
No. 16	0-5

6. CHCU bar chairs shall conform to ASTM A-108, Grade 1008.

All forms shall be installed in accordance with approved fabrication and erection plans. To insure full bond between the precast concrete panel and

the cast-in-place concrete, this interface shall be free of all foreign material during cast-in-place concreting operations. After erection of panels and prior to pouring cast-in-place concrete, the entire top surface of the panels shall be cleaned by water blasting. Water blasting shall be performed by experienced personnel with equipment providing a gauge pressure of 2500 psi (min.) to 3000 psi (max.) and a fan nozzle pressure of approximately 1500 psi. Immediately prior to pouring the cast-in-place concrete, the concrete panels shall be saturated with water.

The thickness of the fiber bearing strips shall be adjusted to accommodate the actual camber and vertical curvature while maintaining the minimum cast-in-place slab depth.

Only the outer 6" of the top flange of the girders shall be smoothed for purposes of seating the panels. The remaining area of the top girder flange shall be left rough.

The precast concrete panels shall be so placed as to obtain the minimum slab thickness shown in the plans within a tolerance of +3/8". The tolerance on the cast-in-place concrete cover for the top reinforcing steel will be +1/4" to -1/8".

PANEL TOLERANCES:

Panel Depth (Thickness)	+3/8", -1/8"
Panel Length (Parallel to strands)	±1"
Panel Width	+1/8", -1/2"
Position of Strands (Vertical)	±1/8"
Position of Strands (Horizontal)	±1/2"

Payment will be based on the plan quantities for full depth cast-in-place concrete construction, regardless of the method of deck construction used. No adjustment of pay quantities will be made for any increase or decrease in concrete or reinforcement necessitated by the use of the precast concrete form panels.

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