

ENGINEERING & ARCHITECTURAL SERVICES
CITY OF PHOENIX, ARIZONA

PREQUALIFICATION REQUIRED

Property of
Flood Control District of MC Libr
Please Return to
2801 Verdugo
Phoenix, AZ 85009



PROJECT SPECIFICATIONS AND CONTRACT DOCUMENT

S-914101/W.O. NO. 05294

SEWER LINE IN 48TH STREET:
THOMAS ROAD TO OSBORN ROAD

MAYOR
PAUL JOHNSON



CITY COUNCIL

DISTRICT NO. 1 - THELDA WILLIAMS
DISTRICT NO. 2 - FRANCES BARWOOD
DISTRICT NO. 3 - SKIP RIMSZA
DISTRICT NO. 4 - CRAIG TRIBKEN

DISTRICT NO. 5 - JOHN NELSON
DISTRICT NO. 6 - KATHY DUBS
DISTRICT NO. 7 - PAT ORTIZ
DISTRICT NO. 8 - CALVIN C. GOODE

CITY MANAGER
CITY ENGINEER

FRANK FAIRBANKS
KENNY W. HARRIS, P.E.

A026.503

BONDING COMPANIES

As of January 1, 1993 MAG adopted the specification that only bonding companies rated A- or better by A. M. Best would be acceptable as companies authorized to transact surety, performance and labor and material business. The City of Phoenix will adopt this policy on all public projects bid after January 12, 1993. This is in addition to the Bid Security stipulation stated in the Call for Bids and the Performance and Labor and Material Bonds section located in the Supplementary Conditions.

PREBID CONFERENCE AND QUESTIONS ON PLANS AND SPECIFICATIONS

No Prebid Conference will be held.

Neither the Engineer nor the City of Phoenix shall be held responsible for any oral instructions. 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, Proposal or Specifications:
Project Engineer, Mr. Negrete, 495-2050 or Mr. Engeln, 495-2050.

General Conditions, Bid Bonds, Insurance, Payment and Performance Bonds and Contracts: 262-4951.

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

FLOOD CONTROL DISTRICT RECEIVED	
JAN 14 1993	
CHENG	P & PM
DEP	HYDRO
ADMIN	LMGT
FINANCE	FILE
C & O	
ENGR	
REMARKS	

TABLE OF CONTENTS

INDEX NO. S-914101

SECTION I - Informative

Page

(1) Call for Bids	C.B. - 1 to 2
(2) Information for Bidders	I.B. - 1 to 4
(3) Bidders Checklist	B.C. - 1
(4) Affirmative Action Requirements	A.A.R. - 1
(5) Supplementary Conditions	S.C. - 1 to 6
(6) Special Provisions	S.P. - 1 to 13
(7) Soil Boring Log	SBL 1 to 8

SECTION II - Proposal

P - 1 to 4

Surety Bond

S.B. - 1

S E A L



CALL FOR BIDS
BIDS WILL BE OPENED
TUESDAY, FEBRUARY 2, 1993, AT 3:00 P.M.

INDEX NO. S-914101

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 a Sewer Line in 48th Street that will extend from Thomas Road to Osborn Road. The project will provide approximately 2,500 L.F. of 16-inch ductile iron sewer pipe, 10 manholes, pavement replacement, and other miscellaneous items.

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 \$25.00 per set.

Plan holders who submit bids under the name given at the time of purchasing plans and specifications, as the prime Contractor, to the City of Phoenix will receive a refund of the required deposit upon receipt within seven (7) calendar days after the date of bid opening of those bidding documents by the City of Phoenix in good order. Documents must be accompanied with the original receipt issued by the City of Phoenix. Refunds will be given for only one (1) set of plans and specifications for each bidder. No refund will be given to plan holders not submitting a bid proposal as the firm identified at time of purchasing the plans and specifications. Refunds will be mailed by the City of Phoenix within sixty (60) days of the bid opening.

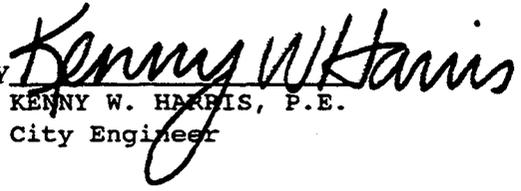
Pursuant to City of Phoenix Ordinance G-2772, on prequalification of Contractors, all bidders must be prequalified to bid on this project.

This project is subject to the City of Phoenix's Code, Chapter 18, Article IV, as amended pertaining to nondiscrimination in employment by Contractors and subcontractors. The Affirmative Action Requirements are included as a part of the specification on page A.A.R. - 1.

Bid Security. No proposal will be read unless accompanied by a proposal guarantee of cash, certified check, or on the surety bond provided, for an amount not less than ten (10%) percent of the amount bid included in the proposal as a guarantee that the contractor will enter into a contract to perform the proposal in accordance with the plans and specifications. Notwithstanding any other statute, the surety bond shall be executed solely by a surety company or companies holding a certificate of authority to transact surety business in this state, issued by the Director of the Department of Insurance pursuant to Title 20, Chapter 2, Article 1. The surety bond shall not be executed by an individual surety or sureties even if the requirements of Section 7-101 are satisfied. The certified check, cashiers check or surety bond shall be returned to the contractors whose proposals are not accepted, and to the successful contractor upon the execution of a satisfactory bond and contract.

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.

FRANK FAIRBANKS
City Manager

By 
KENNY W. HARRIS, P.E.
City Engineer

Published: Arizona Business Gazette
January 7, 1993
January 14, 1993
(6)

INFORMATION FOR BIDDERS

.01 REFUNDS FOR PLANS AND SPECIFICATIONS

Plan holders who submit bids, under the name given at the time of purchasing plans and specifications, as the prime Contractor to the City of Phoenix will receive a refund of the required deposit upon receipt within seven (7) calendar days after the date of bid opening of those bidding documents by the City of Phoenix in good order. Documents must be accompanied with the original receipt issued by the City of Phoenix. Refunds will be given for only one (1) set of plans and specifications for each bidder. No refund will be given to plan holders not submitting a bid proposal as the firm identified at time of purchasing the plans and specifications. Refunds will be mailed by the City of Phoenix within sixty (60) days of the bid opening.

.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-3 or C-10

NOTE: Any bidders who are not prequalified, as stated above, will have their proposal rejected as a nonqualified 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 ten (10) percent of the amount bid.

The completed proposal with the ten (10) percent proposal guarantee shall be submitted in a sealed envelope. The outside, lower right hand corner of which shall be marked as follows:

Bid of (Firm's Name, Address and Phone Number)

For: Sewer Line in 48th Street: Thomas Road to Osborn Road

City of Phoenix Index Number: S-914101

Sealed bids shall be delivered to the Specifications Section counter of the Engineering & Architectural Services Department prior to the time and date specified for bid opening.

This project is subject to the City of Phoenix's Code, Chapter 18, Article IV, as amended pertaining to nondiscrimination in employment by Contractors. The Affirmative Action Requirements are included as a part of the specification on page A.A.R. - 1.

.04 CONTRACT AWARD

Contract award will be made based on the lowest bid amount for the sum of all the bid items for this project. This figure is the dollar amount which will be publicly read at the bid opening.

.05 CANCELLATION OF CONTRACT

All parties hereto acknowledge that this agreement is subject to cancellation by the City of Phoenix pursuant to the provisions of Section 38-511, Arizona Revised Statutes.

.06 EQUAL ECONOMIC OPPORTUNITY CLAUSE

Pursuant to City of Phoenix Code, Chapter 18, Article IV as amended, on Equal Employment Opportunity, all prime Contractors and subcontractors are required to take affirmative action toward equal employment opportunity. All prime Contractors must have Affirmative Action reports on file with the Equal Opportunity Department prior to bid.

.07 PRECONSTRUCTION CONFERENCE

After completion of the contract documents, to include bonds, insurance and signatures and prior to the commencement of any work on the project, the Project Manager, (telephone 495-2050), will schedule a Pre-Construction Conference. This will be held at the Street Transportation Design and Construction Management Building, 1034 E. Madison Street, 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 and sign documents on behalf of the firm, the job superintendent and the Contractor's safety officer.

.08 IMMIGRATION REFORM AND CONTROL ACT

Compliance with the Immigration Reform 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.

.09 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.

.10

CONTRACTOR'S TAX LIABILITY

The successful bidder shall be liable for payment of all State of Arizona and Maricopa County Transaction Taxes (ARS 41-1305) and City of Phoenix Privilege Taxes (Phoenix City Code 14-415) on the successful bidders' construction contracting receipts. Failure to remit the proper taxes to the City may result in the withholding of payment until all delinquent privilege taxes, interest and penalty have been paid.

.11

UNDERGROUND FACILITIES

The Contractor will make whatever investigation it deems necessary to verify the location of underground utility facilities. If such facilities are not in the location shown in the drawings, then (regardless of whether this is discovered prior to or during construction) the contractor's remedies, if any, pursuant to Art. 6.3, Chapter 2, Title 40, A.R.S. (A.R.S. 40-360.21 through 40-360.32, "Underground Facilities"), shall be the contractor's sole remedy for extra work, delays and disruption of the job, or any other claim based on the location of utility facilities. Locations of utility facilities shown on drawings furnished by the City are to be regarded as preliminary information only, subject to further investigation by the contractor. The City does not warrant the accuracy of these locations, and the contractor, by entering into this contract, expressly waives and disclaims any claim or action against the City under any theory for damages resulting from location of utility facilities.

.12

UTILITY-RELATED CONSTRUCTION DELAY DAMAGES CLAIM PROCEDURES

The following procedure is intended to provide a fair and impartial process for the settlement of construction delay claims associated with unknown or improperly located utility facilities.

The Contractor shall immediately notify, in writing, the Project Engineer of any potential utility-related delay claim. The Project Engineer will immediately notify the Utility Coordination Section of the Engineering & Architectural Services Department.

The Contractor shall immediately notify the appropriate liaison of the affected utility verbally, followed by a written notification.

The Contractor shall coordinate the investigation with the affected utility of the situation and provide the City with written notification of their decision on the settlement of the claim.

If the affected utility makes a decision to handle negotiations for a claim, their personnel will be responsible for monitoring the project and all negotiations with the Contractor regarding the claim.

The Contractor shall determine to document requirements of the affected utility for their acceptance of responsibility for the claims. The Contractor shall provide four (4) copies of the required documentation to the utility involved and two (2) copies of this documentation to the Project Engineer. The Contractor shall obtain written confirmation from the utility company involved of their documentation requirements.



City of Phoenix

ENGINEERING & ARCHITECTURAL SERVICES DEPARTMENT

BIDDERS CHECKLIST

Various State Statutes, City Ordinances, Standard Specifications and policies require certain items completed in order to have a bid read at a public works bid opening for the City of Phoenix. The following items are the minimum criteria a bidder must complete. This list is provided for the bidder's convenience only and does NOT have to be filled out. The items are:

1. Prequalification (when required) See Page IB-1 _____
2. EEO Compliance See Page A.A.R.-1 _____
3. 10% Bid Bond See Page S.B.-1 _____
4. DBE Requirements met (when required) _____
5. Addenda acknowledged on the proposal _____



City of Phoenix
EQUAL OPPORTUNITY DEPARTMENT
AFFIRMATIVE ACTION DIVISION

**IMPORTANT NOTICE
PHOENIX CITY CODE
AFFIRMATIVE ACTION REQUIREMENTS**

Suppliers, Contractors & Lessees wishing to enter into a business relationship with the City of Phoenix, must comply with either Article IV or V of Chapter 18 of the City Code, as appropriate.

Compliance is achieved by submission of the affirmative action reporting forms as indicated below:

Individuals or Firms Who Employ Fewer Than 15 People:
Certificate of Less Than 15 (Part D)

Firms Who Employ 15 or More People:

1. Employer Information Report (Part A)
2. Employer EEO Workforce Profile (Part B)
3. An Affirmative Action Plan (Part C)

These reports must be completed accurately and on file with the Equal Opportunity Department prior to bid opening, proposal submission, response to a request for quotation, response to a request for qualification or the date set forth as part of any other request-response process initiated by the City.

The above referenced reports must be submitted to:

Equal Opportunity Department
Affirmative Action Division
550 W. Washington Street
Phoenix, AZ 85003-2107

Failure to comply with the affirmative action requirements outlined in the Articles will result in your being considered ineligible for any City business.

Questions may be directed to the City of Phoenix Equal Opportunity Department, Affirmative Action Division at V/(602) 262-6790, TDD/534-1557, FAX 534-1785.

Thank you for your cooperation.

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 fourteen (14) days after the work is certified and approved.

.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 indemnitee, from all suits, including attorney's 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 Workmen's Compensation Law or arising out of the failure of the Contractor to conform to any statutes, ordinances, regulation, law or court decree. It is the intent of the parties to this contract that the indemnitee shall, in all instances except for loss or damage resulting from the sole negligence of the indemnitee, 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 indemnitee. It is agreed that the Contractor will be responsible for primary loss investigation, defense and judgement 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 statutory amounts for Workmen's Compensation (Employer's Liability with a minimum limit of \$100,000.00 each accident). 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 Qualified 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 named as additional insureds on all Public Liability and Property Damage Insurance and Builder's Risk/Course of Construction Insurance (new buildings and additions to old buildings only) 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 PERFORMANCE AND LABOR AND MATERIAL BOND

Prior to the execution of a contract, the successful bidder must provide a performance bond and a labor and material bond, each in an amount equal to the full amount of the contract. Each such bond shall be executed by a surety company or companies holding a certificate of authority to transact surety business in the State of Arizona issued by the Director of the Department of Insurance. The bonds shall not be executed by an individual surety or sureties. The bonds shall be made payable and acceptable to the Contracting Agency. The bonds shall be written or countersigned by an authorized representative of the surety who is either a resident of the State of Arizona or whose principal office is maintained in this state, as by law required, and the bonds shall have attached thereto a certified copy of Power of Attorney of the signing official. Personal or individual bonds are not acceptable. Failure to comply with these provisions will be cause for rejection of the bidder's proposal.

.07 BONDING COMPANIES

As of January 1, 1993, MAG adopted the specification that only bonding companies rated A- or better by A. M. Best would be acceptable as companies authorized to transact surety, performance and labor and material business. The City of Phoenix will adopt this policy on all public projects bid after January 12, 1993. This is in addition to the Bid Security stipulation stated in the Call for Bids and the above section regarding Performance and Labor and Material Bonds.

.08 ALUMINUM MANHOLE COVERS

The Water Services Department has the following stated policy, "MAG Standard Detail 425 - 24-inch aluminum manhole frame and cover is not approved by the City of Phoenix."

.09 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.

.10 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.

.11 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 twenty (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 Street Transportation Department.

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

.12 DEFINITIONS - MAJOR ITEMS

Section 101, page 10A of MAG Specifications - The definition of major item is changed to read:

MAJOR ITEM: A major item is any bid item of work having an original dollar value equal to or greater than the amount shown below.

MAJOR ITEM IS DEFINED AS
ANY ITEM EQUAL TO OR
GREATER THAN THE FOLLOWING

CONTRACT AMOUNT

Up to \$1 million	\$15,000 or 3%, whichever is greater
\$1 million to \$3 million	3% of the original contract amount to a maximum of \$75,000.00
\$3 million to \$5 million	2.5% of the original contract amount to a maximum of \$90,000.00
Over \$5 million	1.5% of the original contract amount to a maximum of \$125,000.00

CONTINGENCY ITEMS

Contingency items which fall under the definition of a major item are subject to negotiation if decreased by more than twenty (20) percent.

Contingency items shall not increase more than twenty (20) percent without being subject to renegotiation, regardless of the percentage of that item relative to the total contract amount.

.13 MAG SUBSECTION 105.15(B) FINAL ACCEPTANCE

Delete this subsection and substitute the following:

B. Substantial Completion

The work may be judged substantially complete when all construction has been completed with the possible exception of final inspection punch list work. The purpose of granting or acknowledging substantial completion is to stop contract time. This is particularly important to the Contractor if contract time is exhausted or nearly so and/or punch list work is anticipated to extend beyond the allotted time. Granting of substantial completion will eliminate the possibility of incurring liquidated damages or additional liquidated damages beyond the substantial completion date, whichever case may apply.

In the event that the Engineer grants substantial completion, the Contractor shall have thirty (30) days thereafter to complete punch list work, unless additional time is granted--in writing--by the Engineer. In no case shall a Contractor be granted more than thirty (30) days to complete punch list work, unless there are extenuating circumstances such as delay in shipment of a specialized piece of equipment, labor strike, or other circumstances beyond the Contractor's control which would necessitate a further time extension.

C. Penalty for Failure to Complete Punch List Work Within Specified Time

In the event the Contractor fails to complete the punch list work within thirty (30) days following the contract completion date, or in the case of specialized situations within the additional time allotted by the Engineer, the Contractor may be declared in default, and the Engineer may order the work completed by others.

In the event of default, as described herein, the Engineer shall withhold from the Contractor's final payment, an amount equal to at least twice the estimated cost of the remaining work. In addition, the Engineer shall withhold the retention deducted from contract progress payments until all punch list work has been satisfactorily completed, whereupon twice the amount of the actual cost of completing the work shall be deducted from the Contractor's final payment and the remaining funds, if any, including the contract retention, shall be released in accordance with the conditions set forth in contract retention.

D. Contract Retention

This project shall not be considered complete until all work has been completed, including punch list work. Under no circumstances shall a Contractor receive any portion of the legally retained progress payments until the City has granted a final acceptance and/or acknowledged substantial completion. The following conditions shall apply to each case:

1. Substantial Completion: The Engineer may reduce outstanding contract retention to not less than one (1) percent of the total contract amount, upon granting substantial completion, if the value of the punch list work is estimated to be less than one (1) percent of the total contract.
2. Project Acceptance: Project acceptance implies that all punch list work is done and the improvements have been accepted by the City. Under these conditions, the retention will be fully released to the Contractor subject only to the signing of the standard claims affidavit and hold harmless clause required for all contracts.
3. Final Release of Contract Retention and/or Release of More Than Ninety (90) Percent of the Contract Funds: Prior to final payment and release of monies retained and/or in the case of substantial completion where the Contractor has requested a reduction in contract retention, the Contractor will be required to sign a claims affidavit agreeing to hold the City harmless from any and all claims arising out of the contract.

SPECIAL PROVISIONS

.01 TRAFFIC CONTROL

Add the following to MAG Subsection 401.7, Payments:

Payment for traffic control will be paid for on a lump sum basis for traffic control devices.

.02 TRAFFIC REGULATIONS

A. The following shall be considered major streets:

48th Street
Osborn Road
Thomas Road

B. 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.

C. Permission to restrict City streets, sidewalks and alleys (street closure permits) shall be requested as specified in Section III of the Traffic Barricade Manual.

D. 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.

E. No deviation to the "Special Traffic Regulations" will be allowed or implemented unless submitted to the Engineer for review and approval two (2) weeks prior to proposed work.

.03 SPECIAL TRAFFIC REGULATIONS

48th Street: Thomas Road to Osborn Road

48th Street Traffic can be maintained on two lanes (one each way), when construction requires, from 8:30 a.m. to 4:00 p.m. weekdays and working hours on weekends.

48th Street at Thomas Road

48th Street can be reduced to two lanes (each each with a left turn lane) when construction requires, from 8:30 a.m. to 4:00 p.m. weekdays and working hours on weekends. At all other times the intersection shall remain unrestricted.

48th Street at Osborn Road and Osborn Road at 48th Street

The above streets can be closed to through traffic when construction requires from 8:30 a.m. to 4:00 p.m. weekdays and working hours on weekends. High level access for local traffic must be maintained. A two week advance notice period will be required prior to complete closure.

Special Access Requirements

Contractor shall maintain local access at all times and will notify residents and businesses 72 hours in advance of any restrictions which will affect their access. Contractor will restore access as soon as possible. If primary access cannot be restored, Contractor will provide an alternate which will be pre-determined with the business or resident prior to any restrictions being done.

Special Directional Access Sign

The Contractor shall provide, erect and maintain any directional access signs required for the business and other facilities, etc. the cost is to be included in traffic control bid item. Two weeks advance notice signs will be required. The Contractor shall contact local elementary and high schools of any affected school bus routes.

Police Officer Requirements

Contractor shall provide one or more off-duty police officer(s) at the following signalized intersection, weekdays during working hours: 48th Street and Thomas Road.

During operations which do not restrict an intersection, police officer's hours may be reduced to peak traffic hours or may be suspended at the direction of the Traffic Engineer.

Bus Stops

The Contractor shall maintain all existing bus stop locations on this project in a safe manner or provide alternative bus stop locations as required by Engineer.

Fire Station at Thomas

The Contractor shall maintain emergency vehicle access to and from the fire station at all times. contractor shall coordinate with the Fire Station Commander 72 hours prior to any restrictions which will affect access to the fire station and restore access as soon as possible.

Sanitation Pick-Up

The Contractor shall provide sanitation pick-up for the affected residences by relocation of the trash containers or by providing alternative measures acceptable by the Sanitation Division of City of Phoenix Public Works Department. There will be no measurements or direct payment for this work, the cost being considered as included in the cost of contract items.

Flagging of Traffic

No flagging of traffic will be permitted during the peak traffic hours of 6:30 a.m. to 8:30 a.m. and 4:00 p.m. to 6:00 p.m. weekdays. Intermittent flagging will be allowed from 8:30 a.m. to 4:00 p.m. to facilitate large construction vehicles.

.04 MATERIALS LOG

The materials logs contained in the specifications are not the result of a soils investigation performed specifically for this project but are from investigations done for another project in the area. These materials logs are not a part of the contract documents and are included for the Contractor's convenience only. It is not intended to imply that the character of materials is the same as that shown in the logs at any point other than where the boring was made.

.05 TRAFFIC CONTROL PLAN

Contractor shall submit a traffic control plan for approval showing placement of all traffic control devices, including all conflicting signs to be covered/removed or relocated or other features that may conflict with the placement of temporary signage. This plan shall be professionally drawn on a 24" by 36" reproducible media and shall be submitted to the Engineer at the Pre-Construction Meeting. There shall be no separate payment for the traffic control plan.

.06 SEQUENCE OF CONSTRUCTION

The sequence of construction shall conform to the requirements of the Special Traffic Regulations.

The project shall be phased so that construction begins at Thomas Road and continues upstream to Osborn Road. Traffic shall be maintained on a paved surface at all times during construction. At the 48th Street and Osborn Road intersection trenches shall be completely backfilled and paved with temporary asphalt pavement or covered with metal plating as necessary to comply with the Special Traffic Regulations.

Night work will not be allowed on this project.

The right to direct the sequence of construction is a function vested solely with the Engineer. Prior to commencement of the work, the Contractor shall prepare and submit to the Engineer, a written phasing plan and work schedule for the project. This plan and work schedule shall be submitted to the Engineer at the Pre-Construction Conference for review.

When approved, the phasing plan and work schedule shall not be changed without the written consent of the Engineer. Orderly procedure of all work to be performed under this contract shall be the full responsibility of the Contractor. The work schedule shall include the hours per day and the days per week that the Contractor plans to work on the project site.

.07 ALLOWANCE FOR EXTRA WORK

Contract allowance items are provided for the purpose of encumbering funds to cover the costs of possible change order work. The amount of the allowance item is determined by the Engineer and is not subject to individual bid pricing. All bidders shall incorporate the amount pre-entered in the bid proposal and shall reflect the same in the total amount bid for this project.

This allowance item provides an estimated funding to cover unforeseen changes that may be encountered and corresponding extra work needed to complete the contract per plan. Unforeseen extra work, if any, shall be as approved by the Engineer; for example, extension of unit bid prices, negotiated price or time and material, in accordance with MAG Specification Section 109.4 and 109.5.

It shall be understood that this allowance item is an estimate only and is based on change order history of similar projects. It shall not be utilized without an approved contract change order. It is further understood that authorized extra work, if any, may be less than the allowance item.

.08 TEMPORARY PAVEMENT

Temporary pavement shall be asphalt concrete, Type C-3/4, 2-inches thick, unless noted otherwise on the project plans. The temporary pavement shall be placed as required to maintain traffic on pavement at all times or as directed by the Engineer.

There will no direct measurement or payment for furnishing, installing, maintaining or removing temporary asphalt pavement, the cost being considered incidental to other contract bid items.

.09 PAVEMENT REPLACEMENT

Pavement replacement shall be made in accordance with MAG Specifications and details shown on the plans.

The asphalt concrete pavement replacement in 48th Street shall consist of 5-inches of compacted C-3/4 asphalt placed in two lifts. The first lift shall be 3-inches thick. MAG Detail 200 Type 'A' shall be modified for this project. The asphalt pavement replacement shall be placed on compacted native material instead of the 24-inches of aggregate base course as shown in the standard detail.

Payment shall be made at the unit price per square yard bid for material, equipment, labor and all incidentals, including but not limited to pavement removal and subgrade preparation necessary to complete the work.

.10 ABANDON MANHOLE

The Contractor will remove and dispose of manhole cone and backfill with A.B.C. The work also consists of salvaging the frames and covers. Salvaged frames and covers shall be delivered to the 23rd Avenue Treatment Plant (2301 West Durango Street). Call Peter Kaleta at 262-1856, 24 hours in advance.

Measurement for abandon manhole shall be for each and payment shall be made at the unit price stated in the bid proposal.

.11 WATER LINE REPLACEMENT

Water line replacement shall be performed at locations where called out on the plans and as explained in Section 601 of the City of Phoenix Supplement to M.A.G. Measurement and payment shall be in accordance with this section.

.12. WORK HOURS

The following paragraphs shall be added to Section 108.5 of the MAG Specifications:

Regular working hours shall be defined as one 8 1/2-hour shift per day, Monday through Friday, exclusive of City holidays. The Contractor is not guaranteed a forty-hour work week.

Work in excess of regular working hours shall be defined as overtime. For overtime which becomes necessary, the Contractor shall make a written request to the Engineer at least ten (10) calendar days before the desired overtime. The request shall include: duration, date, time, reason for overtime and a statement of ramifications if overtime is not approved.

The Contractor shall not schedule any overtime work which requires inspection, survey or materials testing unless he has received written permission from the Engineer two (2) working days before the proposed overtime work. The engineer reserves the right to deny the requested overtime. If an overtime request is denied, the Engineer may extend the contract time at no additional cost to the City.

Unscheduled Overtime

Overtime that is not requested and approved in accordance with the above procedure shall be defined as unscheduled overtime.

All costs (including appropriate overhead) incurred by the City for unscheduled overtime shall be paid by the Contractor. The City cost for unscheduled overtime shall be deducted by change order from the contract.

Emergency Overtime

An emergency is defined as work required for a situation not within the Contractor's control.

With the Engineer's approval, the Contractor will be permitted to work overtime and will not be responsible for paying the City costs.

.13 WATER MAIN SHUTDOWNS

For shutdowns that are necessary to accomplish the work, the Contractor shall make a written request to Water Distribution at least three (3) calendar weeks before the shutdown. Requests shall specify for each shutdown, location, size of line, duration, date and time. Within one (1) week, Water Distribution will schedule shutdowns and give written notification to Contractor. Any schedule revisions requested by Contractor must be in writing. Water Distribution's revised schedule will be available within one (1) week.

The Contractor shall be responsible for maintaining accessibility to the valve operating nuts for all valves within the project boundaries. Failure to maintain accessibility to valves shall be cause for cancelling shutdown and the Contractor must properly request a schedule revision.

The Water Services Department is indemnified for any and all resultant costs incurred by the Contractor such as, but not limited to, traffic control, delays, loss of incentives, standby and penalties if the Contractor did not properly request a shutdown; or failed to maintain accessibility to valves; or on the scheduled date work had not progressed to the point at which the shutdown was needed.

The water supply to some customers, such as hospitals, cannot be shut off at any time. Provisions to furnish a continuous supply of water to such establishments will be required. After the procedures and time for a shutdown are agreed upon, it shall be the Contractor's responsibility to notify all customers in advance that the water will be turned off. When possible, customers shall be notified 24 hours in advance and in no case, except in an emergency, shall notification be less than 30 minutes. Notification shall be in writing, giving the reason for the shutdown and the time and duration the water service will be shut off.

.14 CONTRACT ADMINISTRATION

With the exception of the reference to "Engineering and Architectural Services" and "Call for Bids", all references to the City Engineer should be replaced with the words "Street Transportation Director." The definition of "Engineer" shall read as follows:

Engineer: All references to "Engineer" in these contract bid documents, including the MAG Specifications, shall mean Street Transportation Director.

.15 TRENCH PLATING

Trenches across driveways and in streets shall be plated to maintain access. Cost of plates shall be considered incidental to the project.

.16 PIPE PLUGS AND PERMANENT PIPE SUPPORTS

Pipe plugs and permanent pipe supports shall be paid for at the unit price bid for each unit installed regardless of dimensional or other differences occurring within particular type. The unit price bid shall be compensation in full for furnishing and placing pipe plugs and permanent pipe supports, including brick work, concrete, reinforcing steel, forming, vibrating, grouting, curing, and any required earthwork.

.17 COMMUNITY RELATIONS

The Contractor shall provide their community relations program for the project a minimum of ten (10) working days prior to the public pre-construction meeting.

This program shall be designed for the full amount and not to exceed the allowance sum. This program shall be designed to run the full length of calendar days in the contract for this project. the community relations program shall include, but not be limited to:

- o Distributing a pre-construction information letter to all residents within an area to be determined by the Engineer and/or the Citizens Advocate which shall contain, as a minimum, the following information:
 1. Name of Contractor
 2. 24-hour telephone complaint number
 3. Brief description of project
 4. Names of Project Manager and Superintendent (Contractor)
 5. Name of Project Engineer (City of Phoenix)
 6. Construction schedule including anticipated work hours
 7. Traffic regulations including lane restrictions
 8. Time and place for the pre-construction meeting
 9. Design and Construction Management's 24-hour telephone number (495-2000)

This notification shall be delivered a minimum of five (5) working days prior to the meeting.

- o Holding a pre-construction meeting with affected neighbors, businesses, schools, church, etc.
- o Printing and distribution of public notices and/or newsletters. Planned water/utility service disruption notification is not payable under this allowance.

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

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

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

No payment will be made under community relations for each calendar day during which there are substantial deficiencies in compliance, as determined by the Engineer.

Payment will be made, based upon time and material invoices and shall not exceed the lump sum amount indicated under the bid item "COMMUNITY RELATIONS", for work performed in notifying and coordinating with the local population impacted by the project.

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

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

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

.18 POLE BRACING

Bracing of Salt River Project power poles shall be coordinated with Pat Holmes (236-8475). This coordination will be the responsibility of the Contractor. There will be no separate payment for pole bracing. It shall be considered incidental to construction of S-913186.

.19 DEWATERING TRENCH

Any water encountered during excavation for sewer line and waterline and other pipe construction shall be disposed of by the Contractor in such a manner as will not cause damage to public or private property or constitute a nuisance or menace to the public. The Contractor shall furnish, install and operate pumps, pipes, appliances and equipment of sufficient capacity and so located as to keep as excavations free from water while work is in progress. There shall be no separate pay item for this work.

.20 WATER MAIN REALIGNMENT

In the event of unavoidable conflict between pipeline construction with an existing water main, the Contractor shall vertically and/or horizontally realign the water main in accordance with Standard Detail 370 and Section 610.

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

The Contractor shall arrange with the Engineer to have the line shut down in order to perform his work. Representatives of the Water Services Department will take the line out of service, provide necessary valve cut-ins and flush the line prior to placing it back in service at no cost to the Contractor.

Materials for water main realignment shall be cast iron or ductile iron in accordance with Section 610.3.

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

Payment for realignment of water mains will be made at the unit price bid per each under proposal item "WATER MAIN REALIGNMENT (6" AND 8)".

.21 SANITARY SEWER PIPE SPECIFICATIONS

A. General

Sewer pipe construction shall conform to MAG Sections 615 and 601 and Section 750 of the City of Phoenix Supplement.

B. Mainline Sewer Pipe

All mainline sewer pipe and fittings from Station 104+53 plus-minus to Station 129+41 plus-minus shall be 16-inch diameter Class 50 (polyethylene-lined) ductile iron pipe per AWWA C-104 and Sections 615 and 750 of the City of Phoenix Supplement to M.A.G.

C. Measurement and Payment

Measurement and payment for the sewer pipe shall be as outlined in M.A.G. Section 615. The cost of all bedding and trench backfill shall be included in the price bid per linear foot of pipe.

.22 LINING FOR DUCTILE IRON PIPE AND FITTINGS

Polyethylene shall be the only lining material acceptable for use in D.I.P. sewer mains.

The Polyethylene lining material shall be virgin polyethylene complying with ANSI/ASTM D 1258, compounded without an inert filler not less than 2 percent carbon black to resist ultraviolet rays during aboveground storage of the pipe and fittings. The polyethylene shall be bonded to the interior of the pipe and fittings by heat.

The polyethylene lining shall cover, at a minimum, the inner surfaces of the pipe and fitting from the plain or beveled spigot end to the rear of the gasket socket. At the ends of the pipe and fittings, the lining thickness shall taper for a distance of 4" to a minimum of 10 mils thickness and shall be hermetically sealed.

All polyethylene lining shall be done by the pipe manufacturer at the location of the manufacture of the pipe.

General Conditions

The pipe manufacturer shall be solely responsible for the quality of the lining.

All surface areas which will be exposed to sewer liquids and/or gases shall be cleaned so as to remove all deleterious materials. After cleaning, the lining compound shall be applied to all surface areas which will be exposed to the sewer liquids and/or gases. The lining compound shall be applied so as to obtain a continuous and relatively uniform and smooth integral lining. The lining in the barrel area shall have a nominal thickness of 40 mils and a minimum thickness of 35 mils. However, the lining in the bell area may transition from a 35 mil minimum thickness at the edge of the barrel area to a 10 mil minimum thickness at the edge of the gasket socket. The 10 mil lining shall extend into the gasket socket area to a point where the gasket

would overlap the lining when it is compressed due to pipe assembly during construction. The 10 mil lining shall also continue from inside the barrel area, around the spigot end of the pipe and along the outside of the pipe to a point where the center of the gasket of the next pipe section would contact the edge of the lining on the spigot end of the previous pipe section. This is a minimum requirement. The thickness of linings shall be determined by using a dry film thickness magnetic gauge at four quadrants.

Because of the extremely rough profile of ductile iron pipe and to ensure adequate protection, the amount of material required to achieve the desired film thickness shall be calculated and that amount shall be applied to the surface.

Lining material must pass the following immersion tests (35 mil minimum dry film thickness) without disintegration, blistering, or cracking:

<u>TEST</u>	<u>TEMPERATURE</u>	<u>DURATION (hours)</u>
75% Sulfuric Acid	70° F	1080
10% Sulfuric Acid	140° F	1080
30% Hydrochloric Acid	140° F	1080
25% Sodium Hydroxide	70° F	1080
5% Sodium Hydroxide	140° F	1080
5% Sodium Hydroxide	70° F	1080

Each piece of pipe and each fitting shall be tested and shall have an absence of holidays when tested by a suitable holiday detector. In all cases, the barrel area of the pipe shall be tested using a voltage of 7500 volts and a dry conductive probe.

Holiday testing shall conform to ASTM G 62-87 and NACE Standards RP0274-74 and RP0188-90 (latest revisions).

The pipe manufacturer shall issue a certification which states that the lining meets the Specifications. This certification shall state specifically the following items:

- a. All ductile iron pipe and fittings have a polyethylene interior lining of 40 mils (35 mils minimum) in the barrel area, 10 mils minimum in the bell area and 10 mils minimum on the exterior of the spigot end.
- b. Each piece of pipe and each fitting have been checked for holidays utilizing a testing voltage of 7500 volts with a dry conductive probe in the barrel area and a testing voltage of 67.5 volts with a wet sponge in both the bell area and the exterior of the spigot end, and no holidays were found.
- c. The lining shall extend from the bottom of the gasket socket in the bell to a point on the exterior of the spigot end of the pipe where the next pipe gasket would overlap the lining.
- d. All polyethylene used meets the current Specifications.

If the Contractor makes a field cut of polyethylene lined pipe, he shall comply with the recommendations of the pipe manufacturer in applying a field coating to the pipe end. In all cases, as a minimum, a 10 mil coating shall be applied to

the pipe and shall overlap the polyethylene lining by four inches and extend around the end of the pipe and along the outside of the pipe a minimum of ten inches. The coating shall be allowed to dry before assembly. In addition, the overlapped surface of the polyethylene lining shall be roughed up to produce a 3 to 5 mil profile over the entire surface. The end result of this process is to secure proper adhesion of the field coating.

Repair

Repair of the damaged sections of the polyethylene lining shall be in accordance with the lining manufacturer's recommendations or as specified above so that the repaired area is equal to the undamaged lined area in all respects. All damaged lined areas and holidays shall be repaired immediately.

Holiday testing may be required by the Engineer before pipe assembly, when deemed appropriate. The testing and repair requirements shall follow the procedures called for in the Specifications.

There will be no other provisions for repair of DIP.

.23 V.C.P. TO D.I.P. CONNECTIONS

The Contractor shall install pipe connectors/adapters at the transition of V.C.P. to D.I.P. (Uniseal, Indiana Seal, Caulder Coupling or approved equal).

.24 MANHOLE CONNECTORS FOR D.I.P. SEWER PIPE

Only resilient type mechanical assemblies for ductile iron pipe will be permissible to connect to the reinforced concrete manhole per ASTM C923, latest revision. (Press-Seal Corp., WS-30 or approved equal).

.25 REMOVAL OF EXISTING SEWER LINES THROUGH NEW MANHOLES

The Contractor shall remove existing sewer pipe through new manholes after the new sewer main to the south has been accepted. There will be no separate payment for this work. Costs shall be included in the unit price for sanitary sewer manhole.

.26 SANITARY SEWER MATERIAL AND EQUIPMENT DRAWING

The Contractor shall furnish the Engineer with two (2) additional copies of the shop drawings in addition to the number required in Subsection 105.2.

The shop drawings shall include pipe layout diagrams, manufacturer's catalog data and detailed information in sufficient detail to show complete compliance with all specified requirements. This shall include, but not be limited to the following items:

- A. Fabricated Pipe and Design Data
- B. Pre-Case Manhole Shart, Corbel and Adjusting Rings
- C. MH Connectors
- D. Castings

Prior to fabrication of pipe, the Contractor shall obtain and submit to the Engineer manufacturers' drawings and pertinent data as required above.

Data submitted shall include layout drawings and schedules, with references to the stationing and grades shown on the plans. The schedules shall show D-loads, and the point of change from one D-load to the next shall be clearly indicated by the station number. Invert elevations of the pipeline shall be shown on the layout drawings.

Drawings showing full details of reinforcement, concrete, lining, and joint dimensions for the straight pipe, specials, and connections shall be furnished.

Drawings of a minor nature or incidental fabricated material and/or equipment may not be required by the Engineer. The Contractor shall furnish the Engineer tabulated lists of such fabrications, showing the names of the manufacturers and catalog numbers, together with samples or general data as may be required to permit determination by the Engineer as to their acceptability for incorporation into the work.

Review

The Contractor, at his own expense, shall make such changes in the above drawings as may be necessary to conform to the plans and specifications. Prior to return of such drawings, marked "Furnish as Submitted" or "Furnish as Noted", any work which the Contractor may do on the fabrications covered by the same shall be at his own risk, as the City will not be responsible for any expense or delays incurred by the Contractor for changes to make the same conform to the drawings as finally reviewed.

One copy of submitted drawings will be returned to the Contractor marked "Furnish as Submitted" or "Furnish as Noted". If the submittal is marked "Review and Resubmit" or "Rejected", a new submittal shall be made in the same manner as the original submittal.

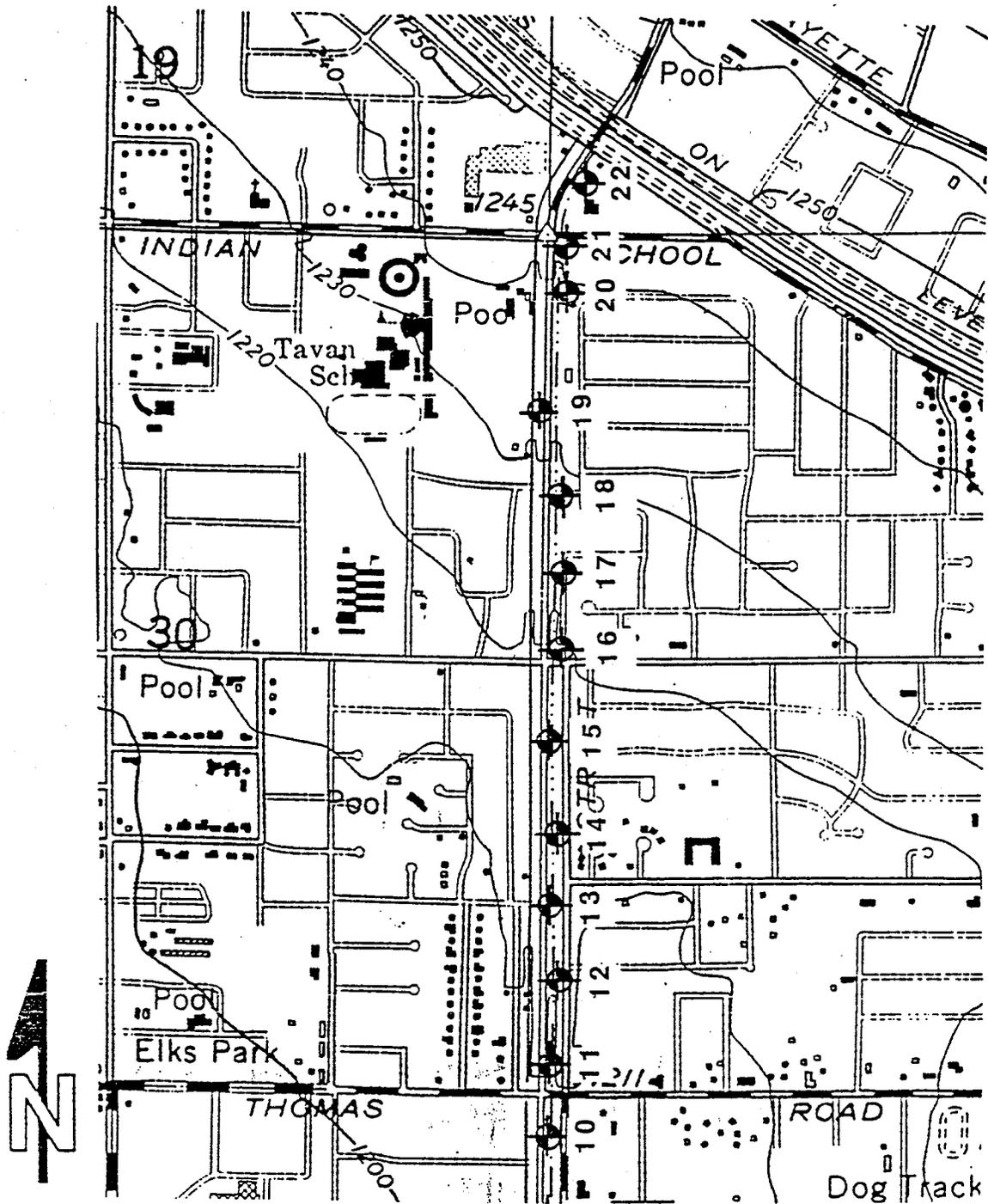
When submitted for the Engineer's review, shop drawings, line layouts, etc., shall bear the Contractor's certification that he has reviewed, checked, and approved the shop drawings, etc, and that they are in conformance with the requirements of the Contract Documents. The Engineer will not review any submittals which do not bear the Contractor's certification.

After the review has been completed, the above drawings, lists, samples, design calculations, and other data shall become a part of the Contract Documents, and the fabrications furnished shall conform to the submittal.

Off-Site Inspection

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

Corrections required on the shop drawings will not constitute valid reasons for delay in the project schedule. The existing contract time provides for 4 weeks for shop drawing preparation and review.



LEGEND:

⊕ Test Boring Location

NOTE: Test borings 3, 8, 13, 16, & 21 completed as piezometer wells

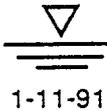
LEGEND OF SOIL TYPES



ASPHALT CONCRETE, AGGREGATE BASE



CLAYEY SAND/SANDY CLAY (SC, SC/CL, CH, CL); light brown to reddish brown; sand fraction primarily fine to medium; occasional to frequent zones with traces to some small gravel, predominantly consisting of subangular to angular granite fragments; scattered gravelly lenses or layers; medium dense to dense; moderate to high plasticity; variable light to heavy calcareous cementation; damp to wet.



Approximate groundwater level encountered during drilling.



Stabilized groundwater level observed in temporarily open hole or piezometer.

**All borings drilled with 7" diameter hollow stem
auger unless otherwise noted.**

NOTE: The data presented on the boring logs represents subsurface conditions only at the specific locations and at the time designated. This data may not represent conditions at other locations and/or times. Contacts between soil strata are approximate and changes between soil types may be gradual rather than abrupt. This boring data was compiled primarily for design purposes and should not be construed as part of the plans governing construction or defining construction techniques. Bidders are fully responsible for interpretations or conclusions they draw from the boring log.

**Project No. 90-0863
Thomas-Hartig & Associates**

LEGEND

SOIL CLASSIFICATION

COARSE-GRAINED SOIL

More than 50% larger than 200 sieve size

SYMBOL	LETTER	DESCRIPTION	MAJOR DIVISIONS
	GW	WELL-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LESS THAN 5% - #200 FINES	GRAVELS More than half of coarse fraction is larger than No. 4 sieve size
	GP	POORLY-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LESS THAN 5% - #200 FINES	
	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, MORE THAN 12% - #200 FINES	
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, MORE THAN 12% - #200 FINES	
	SW	WELL-GRADED SANDS OR GRAVELLY SANDS, LESS THAN 5% - #200 FINES	SANDS More than half of coarse fraction is smaller than No. 4 sieve size
	SP	POORLY-GRADED SANDS OR GRAVELLY SANDS, LESS THAN 5% - #200 FINES	
	SM	SILTY SANDS, SAND-SILT MIXTURES MORE THAN 12% - #200 FINES	
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES MORE THAN 12% - #200 FINES	

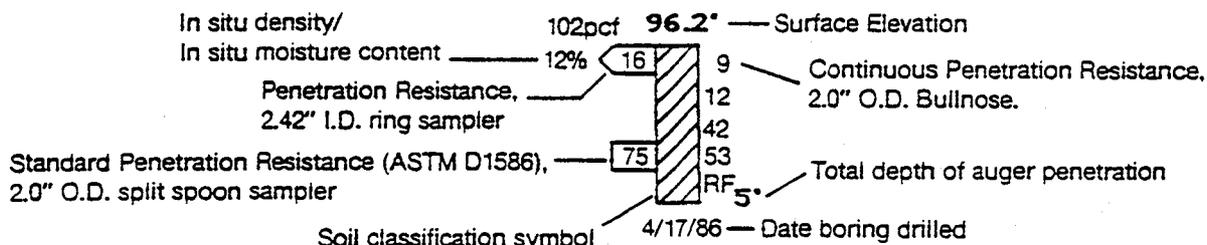
FINE-GRAINED SOIL

More than 50% smaller than 200 sieve size

SYMBOL	LETTER	DESCRIPTION	MAJOR DIVISIONS
	ML	INORGANIC SILTS, ROCK FLOUR, AND FINE SANDY OR CLAYEY SILTS OF LOW TO MEDIUM PLASTICITY	SILTS AND CLAYS Liquid limit less than 50
	CL	INORGANIC CLAYS, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, AND LEAN CLAYS OF LOW TO MEDIUM PLASTICITY	
	OL	ORGANIC SILTS AND ORGANIC SILT-CLAY MIXTURES OF LOW TO MEDIUM PLASTICITY	
	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS, AND FINE SANDY OR CLAYEY SILTS OF HIGH PLASTICITY	SILTS AND CLAYS Liquid limit greater than 50
	CH	INORGANIC CLAYS, FAT CLAYS, AND SILTY CLAYS OF HIGH PLASTICITY	
	OH	ORGANIC CLAYS AND ORGANIC SILTS OF MEDIUM TO HIGH PLASTICITY	
	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	

LEGEND FOR GRAPHICAL BORING LOGS:

Log denotes visual approximation unless accompanied by mechanical analysis and Atterberg limits.



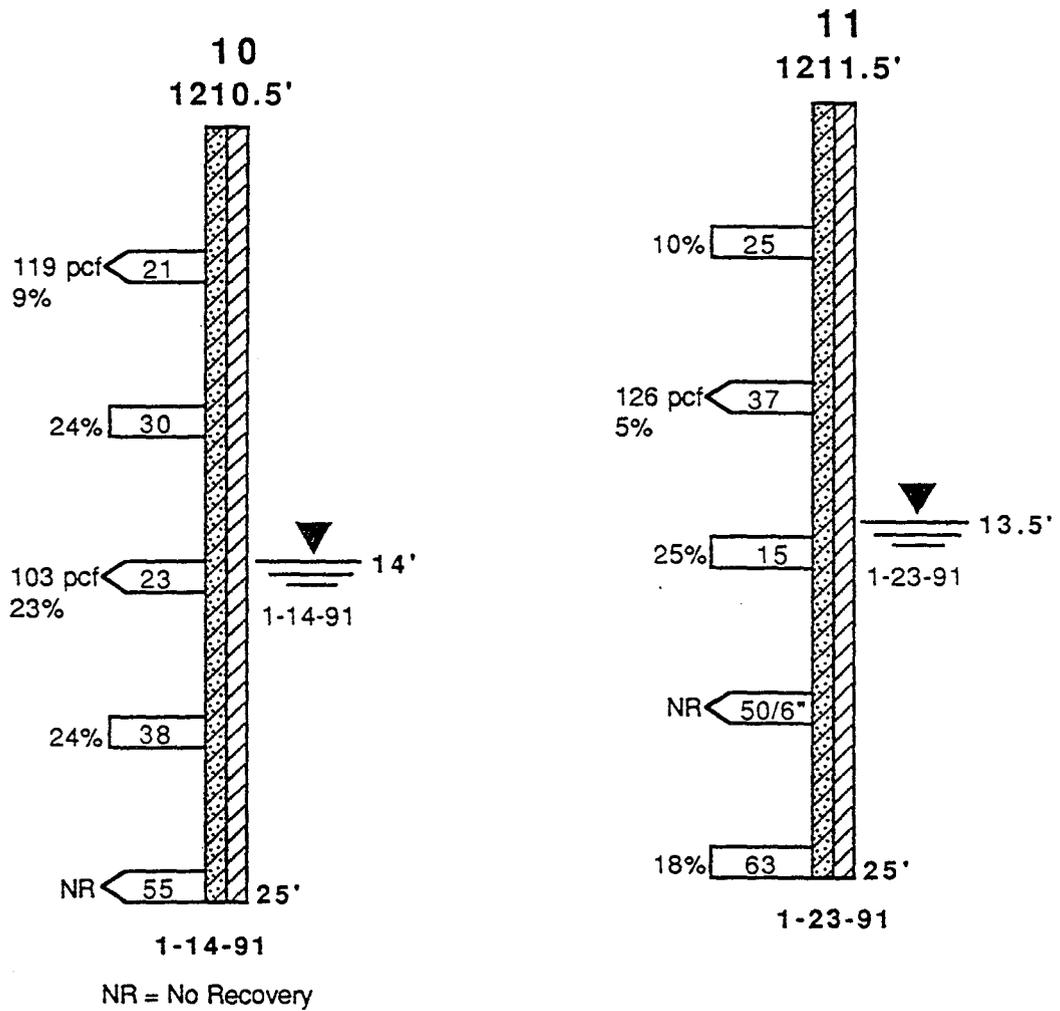
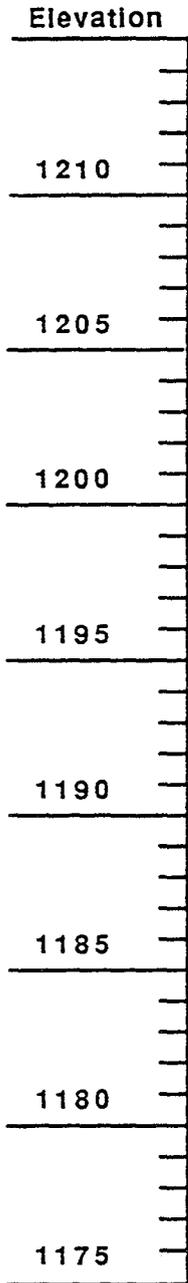
PENETRATION RESISTANCE: Blows per foot using 140 lb. hammer with 30" free-fall unless otherwise noted.

GRAIN SIZES								
SILTS & CLAYS DISTINGUISHED ON BASIS OF PLASTICITY	U.S. STANDARD SERIES SIEVE			CLEAR SQUARE SIEVE OPENINGS			COBBLES	BOULDERS
	200	40	10	4	3/4"	3"		
	SAND			GRAVEL				
	FINE	MEDIUM	COARSE	FINE	COARSE			
MOISTURE CONDITION (INCREASING MOISTURE →)								
DRY	SLIGHTLY DAMP		DAMP	MOIST	VERY MOIST		WET (SATURATED)	
			(Plastic Limit)					(Liquid Limit)

CONSISTENCY CORRELATION		RELATIVE DENSITY CORRELATION	
CLAYS & SILTS	BLOWS/FOOT*	SANDS & GRAVELS	BLOWS/FOOT*
VERY SOFT	0-2	VERY LOOSE	0-4
SOFT	2-4	LOOSE	4-10
FIRM	4-8	MEDIUM DENSE	10-30
STIFF	8-16	DENSE	30-50
VERY STIFF	16-32	VERY DENSE	OVER 50
HARD	OVER 32		

*Number of blows of 140 lb. hammer falling 30" to drive a 2" O.D. (1-3/8" I.D.) split-spoon sampler (ASTM D1586).

GRAPHICAL BORING LOGS



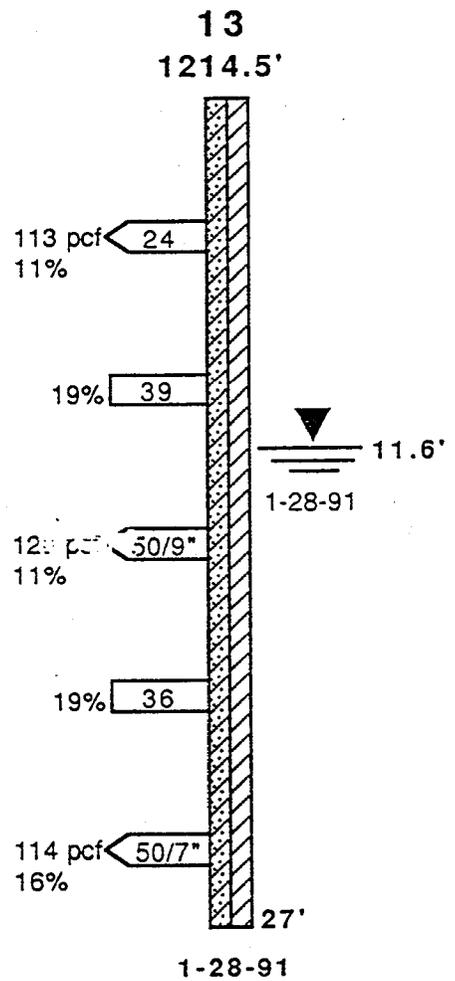
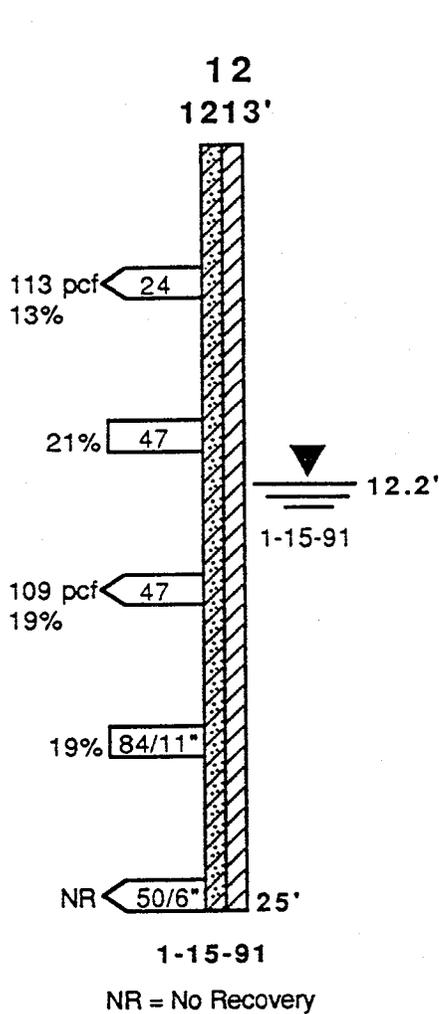
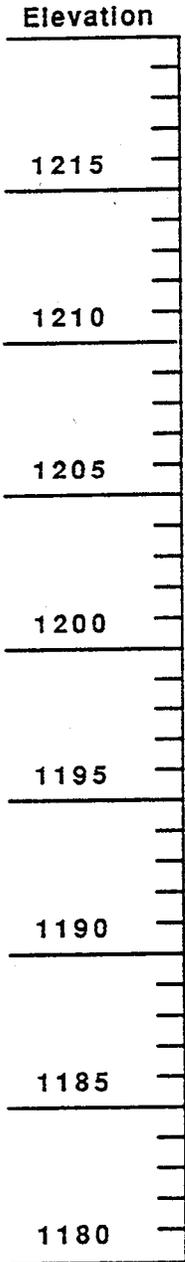
Free groundwater was encountered in the test borings during drilling as noted above.

All borings drilled with 7" diameter hollow stem auger unless otherwise noted.

NOTE: The data presented on the boring logs represents subsurface conditions only at the specific locations and at the time designated. This data may not represent conditions at other locations and/or times. Contacts between soil strata are approximate and changes between soil types may be gradual rather than abrupt. This boring data was compiled primarily for design purposes and should not be construed as part of the plans governing construction or defining construction techniques. Bidders are fully responsible for interpretations or conclusions they draw from the boring log.

Project No. 90-0863
 Thomas-Hartig & Associates

GRAPHICAL BORING LOGS



NOTE: Completed as a Piezometer. See Schematic Well Construction Plan.

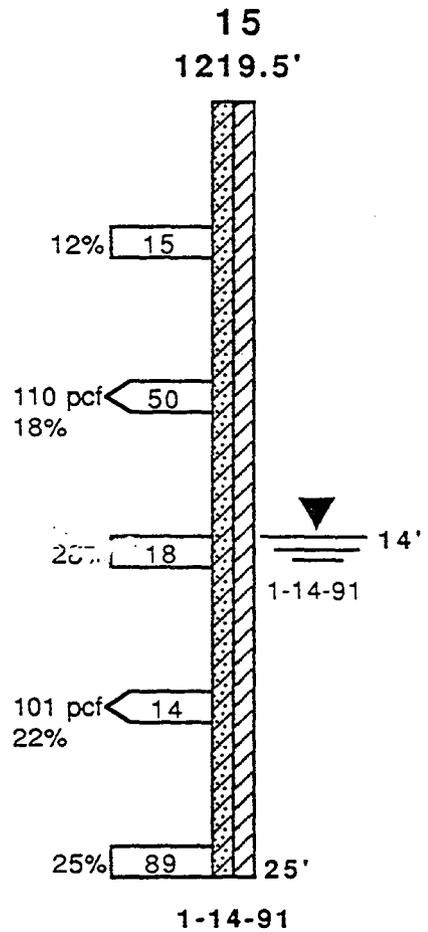
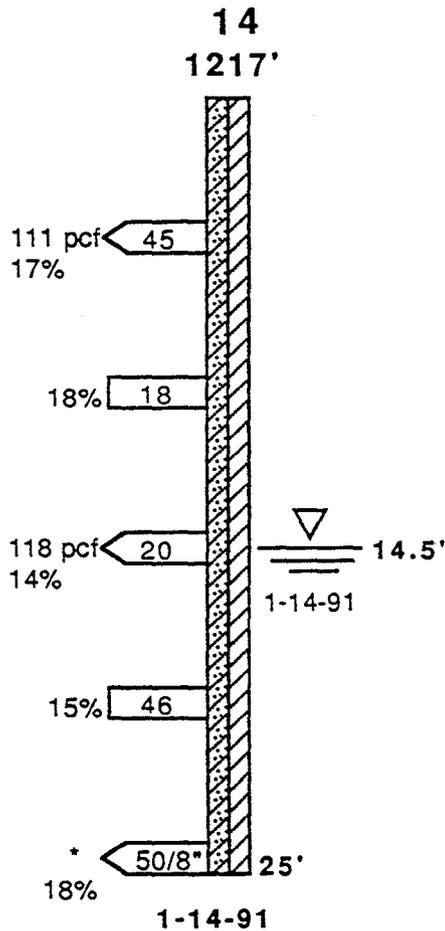
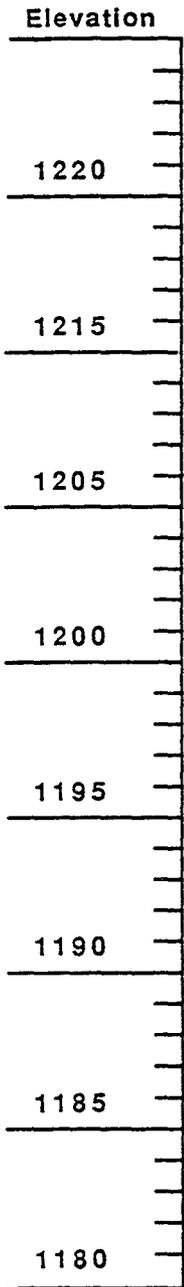
Free groundwater was encountered in the test borings during drilling as noted above.

All borings drilled with 7" diameter hollow stem auger unless otherwise noted.

NOTE: The data presented on the boring logs represents subsurface conditions only at the specific locations and at the time designated. This data may not represent conditions at other locations and/or times. Contacts between soil strata are approximate and changes between soil types may be gradual rather than abrupt. This boring data was compiled primarily for design purposes and should not be construed as part of the plans governing construction or defining construction techniques. Bidders are fully responsible for interpretations or conclusions they draw from the boring log.

Project No. 90-0863
Thomas-Hartig & Associates

GRAPHICAL BORING LOGS



*Sample too disturbed to determine density.

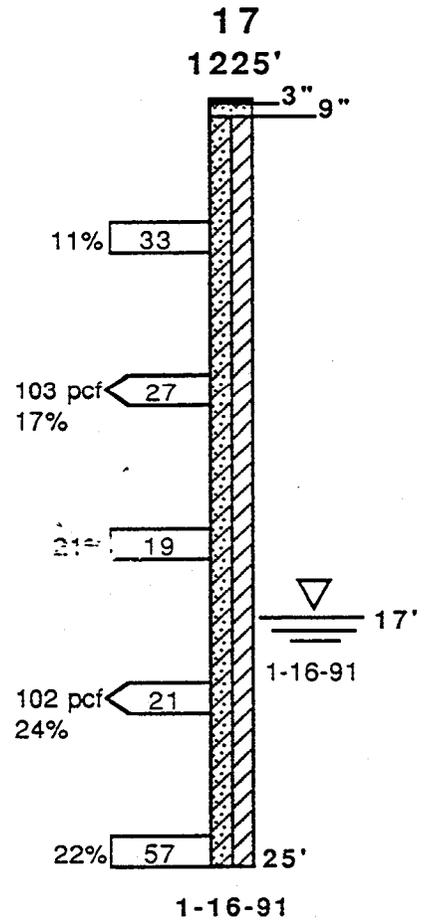
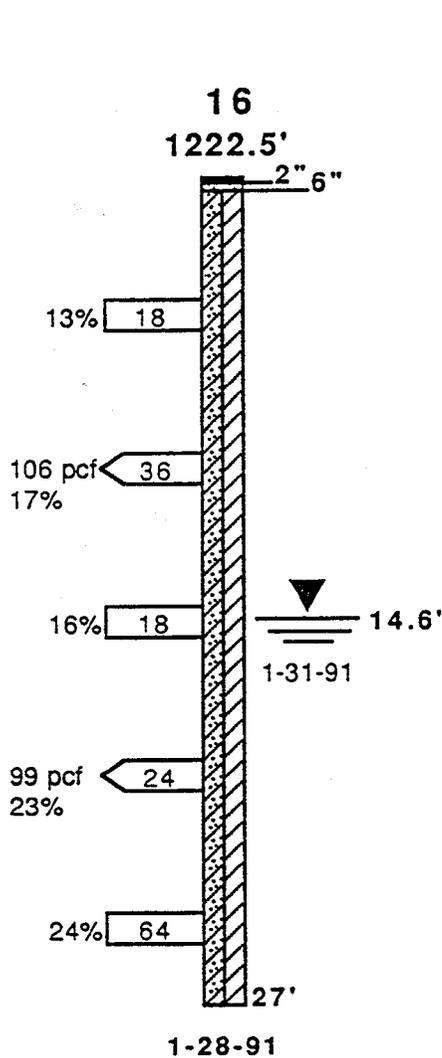
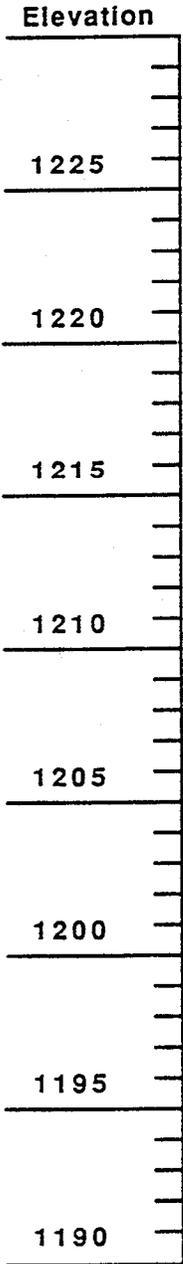
Free groundwater was encountered in the test borings during drilling as noted above.

All borings drilled with 7" diameter hollow stem auger unless otherwise noted.

NOTE: The data presented on the boring logs represents subsurface conditions only at the specific locations and at the time designated. This data may not represent conditions at other locations and/or times. Contacts between soil strata are approximate and changes between soil types may be gradual rather than abrupt. This boring data was compiled primarily for design purposes and should not be construed as part of the plans governing construction or defining construction techniques. Bidders are fully responsible for interpretations or conclusions they draw from the boring log.

Project No. 90-0863
Thomas-Hartig & Associates

GRAPHICAL BORING LOGS



NOTE: Completed as a piezometer. See Schematic Well Construction Plan.

Free groundwater was encountered in the test borings during drilling as noted above.

All borings drilled with 7" diameter hollow stem auger unless otherwise noted.

NOTE: The data presented on the boring logs represents subsurface conditions only at the specific locations and at the time designated. This data may not represent conditions at other locations and/or times. Contacts between soil strata are approximate and changes between soil types may be gradual rather than abrupt. This boring data was compiled primarily for design purposes and should not be construed as part of the plans governing construction or defining construction techniques. Bidders are fully responsible for interpretations or conclusions they draw from the boring log.

Project No. 90-0863
Thomas-Hartig & Associates

REPORT ON FIELD RESISTIVITY TESTS

DESCRIPTION:

Date: 12/30/90 and 1/2/91

Location: Noted Below

Material: Subsurface Soil

Performed By: TH/R. Thompson

TESTED: Field electrical resistivity using the 4-probe method.

RESULTS:

<u>Test Boring</u>	<u>Resistivity (ohm-cm)</u>	
	<u>0 - 12 ft.</u>	<u>0 - 25 ft.</u>
1	2940	2390
2	2320	3350
3	3060	3020
4	3290	2300
5	3080	2300
6	3700	2680
7	5790	3500
8	4760	3690
9	5520	5170
10	7010	4400
11	5330	3540
12	2550	2820
13	2870	2730
14	2670	2300
15	1910	2630
16	2990	2780
17	2830	9580
18	2480	2110
19	3260	2630
20	3680	3160
21	3150	3590
22	3150	3250

Project No. 90-0863

Thomas-Hartig & Associates, Inc.

BOND ISSUE OR BUDGET PROJECT
CITY OF PHOENIX, ARIZONA
ENGINEERING AND ARCHITECTURAL SERVICES 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 ten (10) percent of the amount bid, as referenced in the Call for Bids.

Agrees that upon receipt of Notice of Award, from the City of Phoenix, he will execute the contract documents within 10 calendar days.

Work shall be completed within 60 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 and approvals.

The bidder hereby acknowledges receipt of and agrees his proposal is based on the following addenda:

BID ESTIMATE

PAY ITEM NO.	DESCRIPTION	APPROX QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
1.	Furnish and install 16-inch D.I.P. Class 50 (Polyethylene-lined) and fittings	2486 L.F.		
2.	Furnish and install 8-inch V.C.P. and Fittings	50 L.F.		
3.	Furnish and install 5" diameter manhole Standard Detail 420 and 424	8 Ea.		
4.	Furnish and install 5' diameter manhole with drop connection, Detail 420, 424, and 426	1 Ea.		
5.	Furnish and install 4-foot diameter manhole with drop connection, Detail 426	1 Ea.		
6.	Furnish and install pipe encasement, Detail 404	22 L.F.		
7.	Furnish and install pipe plug, Detail 427	12 Ea.		
8.	Reinforced Concrete Cap (Special Detail)	16 L.F.		
9.	Watermain Realignment (8")	1 Ea.		
10.	Watermain Replacement	1 Ea.		
11.	Furnish and install Pipe Support, Standard Detail 403	2 Ea.		

BID ESTIMATE

PAY ITEM NO.	DESCRIPTION	APPROX QUANTITY & UNIT		
			UNIT PRICE	AMOUNT
12.	Remove existing Pipe Plug	1 Ea.		
13.	Remove and replace headwall, Detail 501-1 (Type 'U')	1 Ea.		
14.	Abandon Manhole, remove cone and salvage frame and cover	3 Ea.		
15.	Asphalt Pavement Replacement Type 'A', Standard Detail 200	87 S.Y.		
16.	Asphalt Pavement Replacement, Type 'B', Standard Detail 200	39 S.Y.		
17.	Traffic Control Devices	1 Job		
18.	Uniformed off-duty law enforcement officers	40 Hrs.	Current Hourly Rate	840.00
19.	Allowance for Extra Work	1 Job	L.S.	10,000.00
20.	Community Relations Allowance	1 Job	L.S.	5,000.00
	TOTAL AMOUNT OF BID FOR ITEM 1 THROUGH 20			
	TOTAL AMOUNT OF CONSTRUCTION ESTIMATE			
	\$ _____ & _____ /100 Dollars			
	_____ Written Words			

THIS PROPOSAL IS SUBMITTED BY _____

a corporation organized under the laws of the State of _____

a partnership consisting of _____

a joint venture consisting of _____

or individual trading as _____

of the City of _____.

Arizona Licenses _____

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. - 2 for section on Contractor's License.

S U R E T Y B O N D

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 as Obligee, in the sum of ten (10) percent of the total amount
of the bid of Principal, submitted by him to the City of Phoenix 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 shall accept the proposal of the
Principal and the Principal shall enter into a contract with the City of Phoenix
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 the difference not to exceed the penalty of the bond between the
amount specified in the proposal and such larger amount for which the Obligee
may in good faith contract with another party to perform the work covered by the
proposal, 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

WITNESS:

AN IMPORTANT FIRST STEP

FOR ALL CONSTRUCTION CONTRACTORS,
AND THEIR SUB-CONTRACTORS

Prior to bidding on construction contracts in excess of \$10,000.00, all prime Contractors and their subcontractors must submit three (3) reports to the Equal Opportunity Department, 550 West Washington Street, Phoenix, Arizona 85003, telephone (602) 262-6790.

The reports are:

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

The Affirmative Action Requirement information page is included in the specification book on page A.A.R. - 1. You may pick up the report forms at the above office or call and the reports forms will be mailed.

These reports are required by City Code Chapter 18-31.1, 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 firm's 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.