CITY OF PHOENIX, ARIZONA
OFFICE OF THE CITY ENGINEER

PROJECT SPECIFICATIONS AND CONTRACT DOCUMENTS

27TH AVENUE – LOWER BUCKEYE ROAD TO BUCKEYE ROAD ROADWAY IMPROVEMENT
PROJECT NO. ST85100341

MAYOR
THELDA WILLIAMS

CITY COUNCIL

DISTRICT NO. 1 – THELDA WILLIAMS
DISTRICT NO. 2 – JIM WARING
DISTRICT NO. 3 – DEBRA STARK
DISTRICT NO. 4 – LAURA PASTOR

DISTRICT NO. 5 – VANIA GUEVARA
DISTRICT NO. 6 – SAL DICICCIO
DISTRICT NO. 7 – MICHAEL NOWAKOWSKI
DISTRICT NO. 8 – FELICITA MENDOZA

CITY MANAGEMENT

CITY MANAGER
ED ZUERCHER
CITY ENGINEER
KINI L. E. KNUDSON, PE
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**PROJECT NO.:** ST85100341

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STD DCM Standard MAG Boilerplate  
Boilerplate Revision 8/18
CALL FOR BIDS

CITY OF PHOENIX
27TH AVENUE ROADWAY IMPROVEMENTS
FROM LOWER BUCKEYE ROAD TO BUCKEYE ROAD
DESIGN-BID-BUILD
ST85100341

BIDS WILL BE DUE: TUESDAY, DECEMBER 4, 2018 AT 2:00 P.M., PHOENIX TIME
PHOENIX CITY HALL
200 W. WASHINGTON STREET, 6th FLOOR
PHOENIX, AZ 85003-1611

The City of Phoenix is seeking a qualified construction contractor to perform the project listed below.

SCOPE OF WORK

The work includes road widening improvements on 27th Avenue from Lower Buckeye Road to Buckeye Road, new roadway improvements, removals, grading, asphalt concrete paving, portland cement concrete paving, concrete curb and gutter, concrete sidewalk, concrete sidewalk ramps, concrete driveways, concrete bus shelter/accessory pads, decomposed granite, catch basins, storm drain connector pipes, SRP irrigation pipes, private irrigation pipes, traffic signals, street lighting, manhole adjustments, water valve adjustments, mailbox relocations, traffic control devices, fencing (both new and relocations), relocation of fire hydrants/water meters, and coordination with utility owners for relocations. The Engineer’s Estimate for this project is $2,863,041 to $3,499,272.

A Small Business Enterprise goal of 18% has been established for this project.

PRE-BID MEETING

A pre-bid meeting will be held on Friday, November 16, 2018, at 8:30 a.m., Phoenix time, at DCM Gecko Conf Room located at 1034 E. Madison Street, Phoenix, AZ 85034. At this meeting, staff will discuss the scope of work, general contract issues and respond to questions from the attendees. As City staff will not be available to respond to individual inquiries regarding the project scope outside of this pre-bid meeting, it is strongly recommended that interested firms send a representative to the pre-bid meeting.

REQUEST FOR BID PACKET

The bid packet will be available for download on the City of Phoenix Design and Construction Procurement’s “Current Opportunities” web page as of Thursday, November 8, 2018. The web address is:

https://www.phoenix.gov/streets/procurement-opportunities/current-opportunities

Firms receiving a copy of the bid packet through any other means must download the bid packet from the City webpage and register as a plan holder for the project. The plan holder list is available for viewing within the project folder.

GENERAL INFORMATION

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

C.B.-1
The City of Phoenix will provide reasonable accommodations for alternate formats of the bid packet by calling George Goodale, Contracts Specialist, at (602) 534-8352 or calling TTY System (602) 256-4286. Requests will only be honored if made within the first week of the advertising period. Please allow a minimum of seven calendar days for production.

Questions pertaining to process or contract issues should be directed to George Goodale, Contracts Specialist at (602) 534-8352 or george.goodale@phoenix.gov.

ED ZUERCHER
City Manager

KINI L. E. KNUDSON, PE
City Engineer

Published: Arizona Business Gazette
Date: Thursday, November 8, 2018
Date: Thursday, November 15, 2018
District 7
INFORMATION FOR BIDDERS

1. **102 BIDDING REQUIREMENTS AND CONDITIONS**, Add the following to MAG and COP Supplement to MAG Section 102 BIDDING REQUIREMENTS AND CONDITIONS:

**INFORMATION FOR BIDDERS**

**A. QUESTIONS ON PLANS AND SPECIFICATIONS**

Neither the Engineer nor the City of Phoenix will be held responsible for any oral instructions. Any changes to the plans and specifications will be in the form of an addendum. All Addenda will be posted online within the project folder at the following website:

https://www.phoenix.gov/streets/procurement-opportunities/current-opportunities

A Planholder List is available within the project folder on the Design and Construction Procurement’s website under “Current Opportunities”. The web address is:

https://www.phoenix.gov/streets/procurement-opportunities/current-opportunities

For additional information prior to submitting your bid, contact:

Plans, Technical/Special Provisions, Proposal or Specifications:
NAME: George Goodale, Design and Construction Procurement
ADDRESS: 200 W. Washington Street, 6th Floor, Phoenix, AZ 85003-1611
PHONE: (602) 534-8352  E-MAIL: George.Goodale@Phoenix.gov

SBE Utilization contact:
Equal Opportunity Department: (602) 262-6790

All questions regarding the plans and specifications must be received (in writing) at a minimum seven calendar days prior to bid opening. Questions received after that time may not be given any consideration.

**B. REQUEST FOR SUBSTITUTIONS**

Paragraph A, B, and C of MAG Section 106.4 are deleted and the following paragraphs substituted:

1. The Engineer will consider written request(s), by a prime bidder only, for substitution(s) which is/are considered equivalent to the item(s) specified in the Contract documents. The written request will be considered only if it is received at least twelve (12) calendar days prior to the established bid date. Notification of acceptable substitutions will be made by addendum issued no fewer than seven calendar days prior to the established bid date. (A.R.S. 34-104)

2. The prime bidder, at his own expense, will furnish the necessary data of substitution and validate that the physical, chemical, and operational qualities of each substitute item is such that this item will fulfill the originally specified required function.

3. The substitution, if approved, will be authorized by a written addendum to the Contract documents and will be made available to all bidders. The bid date and the scheduled completion time will not be affected by any circumstances developing from this substitution.
4. The request will be submitted to Design and Construction Procurement, Attention George Goodale, Sixth Floor, Phoenix City Hall, 200 W. Washington Street, Phoenix, Arizona 85003-1611 or via email to George.goodale@phoenix.gov.

C. BID BOND

Bidders must submit a properly completed proposal guarantee, certified check, cashier's check or on the surety bond provided, for an amount not less than ten (10) percent of the total 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. Surety bonds submitted for this project will be provided by a company which has been rated "A- or better for the prior four quarters” by the A.M. Best Company. A bid will be deemed non-responsive if not accompanied by this guarantee.

The surety bond will be executed solely 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 pursuant to Title 20, Chapter 2, Article 1. The surety bond will not be executed by an individual surety or sureties even if the requirements of Section 7-101 are satisfied. The City Clerk will return the certified check, cashiers check, or surety bond to the contractors whose proposals are not accepted, and to the successful contractor upon the execution of a satisfactory bond and contract.

When providing a Surety Bond, failure to provide an “A- or better for the prior four quarters” bond will result in bid rejection.

D. LIST OF MAJOR SUBCONTRACTORS AND SUPPLIERS & LIST OF ALL SUBCONTRACTORS AND SUPPLIERS

A bid will be deemed non-responsive if not accompanied by a properly completed and signed “List of Major Subcontractors and Suppliers” form.

To assist in eliminating the practice of bid shopping on City construction projects, the bidder will list all Major Subcontractors and Suppliers (including SBE) to whom the bidder intends to contract with that are equal to or greater than 5% of the base bid. The list of major subcontractors and suppliers will be provided on the “List of Major Subcontractors” form. Failure to properly complete and sign this form will result in bid rejection. This form is due with the bid.

If substantial evidence exists that bid shopping occurred on this project, the Bidder will be ineligible to bid on City construction projects for a period of one year.

The list of All Subcontractors and Suppliers will be provided on the “List of All Subcontractors and Suppliers” form. Failure to properly complete and sign this form will result in bid rejection. This form is due three calendar days after bid opening by 5:00 p.m. A bid will be deemed non-responsive if a properly completed and signed “List of All Subcontractors and Suppliers” form is not submitted.

E. BID SUBMITTAL

The properly completed bid documents along with the ten (10) percent bid guarantee will be submitted in a sealed envelope. The outside of the envelope will be marked as follows:

Bid of (Firm's Name, Address and Phone Number)
For: 27th Avenue – Lower Buckeye Road to Buckeye Road Roadway Improvement
City of Phoenix Project Number: ST85100341
Sealed bids will be submitted to the bid box located by the Design and Construction Procurement Reception Desk located on the Sixth Floor of the Phoenix City Hall Building, 200 W. Washington Street, Phoenix, Arizona, 85003 prior to the time and date specified for bid opening.

F. **BID WITHDRAWALS**

MAG Section 102-10, Withdrawal or Revision of Proposal, is hereby deleted and the following paragraph is submitted:

“No bidder may withdraw or revise a proposal after it has been deposited with the City except as provided in Phoenix City Code Chapter 2, Section 190.2. Proposals, read or unread, will not be returned to the bidders until after determination of award has been made.

G. **ADDENDA**

*Acknowledge all addenda; a bid will be deemed non-responsive if all issued addenda for this project are not acknowledged in writing on Page P. -1.*

The City of Phoenix will not be responsible for any oral responses or instructions made by any employees or officers of the City of Phoenix regarding bidding instructions, plans, drawings, specifications or contract documents. A verbal reply to an inquiry does not constitute a modification of the Invitation for Bid (IFB). Any changes to the plans, drawings and specifications will be in the form of an addendum.

It will be the responsibility of the prospective bidder to determine, prior to the submittal of its bid, if any addenda to the project have been issued by the Street Transportation Department Contract Procurement Section. All addenda issued will be acknowledged by the bidder on Page P-1. All addenda (if any) will be available online within each project’s folder at the following website:

https://www.phoenix.gov/streets/procurement-opportunities/current-opportunities

The contractors and/or consultants are responsible for ensuring they have all addenda and/or notifications for all projects they are submitting on. Prospective bidders are strongly encouraged to check the Design and Construction Procurement website in order to ascertain if any addenda have been issued for the project.

H. **BID SUBMITTAL CHECKLIST**

*BID SUBMITTAL CHECKLIST*

This checklist is provided to remind bidders of several of the required elements of the bid packages. It is not intended to be a comprehensive list of all of the contract documents. Bidders are encouraged to review all of the Bid Instructions to determine compliance therein.

https://www.phoenix.gov/finance/vendorsreg

- Acknowledge all addenda? (Page P-1)
- Completed all of the Bid Proposal forms? (Pages P-1 to P - 11 and P.S. - 1)
- Included your Bid Bond (rated A- or better for the prior four quarters) or Guarantee Cashier’s Check? (Page S.B.-1)
- Completed SBE Utilization form or a fully documented waiver package? (Page S.B.U.-1)
please do not submit the entire specification book when submitting your bid. include only the required bidding documents.

post-bid submittal checklist

all bidders wishing to remain in contention for award of the contract must submit completed contracts documents listed below. the documents must be submitted to the design and construction procurement section, 6th floor, or can be sent by email to george.goodale@phoenix.gov.

- completed list of major subcontractors and suppliers form? (page l.o.s.-1)
- completed letter of intent to perform as subcontractor/supplier (l.o.i-1)

I. CANCELLATION OF CONTRACT FOR CONFLICT OF INTEREST

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.

J. CONTRACTOR’S LICENSE AND PRIVILEGE LICENSE AND CERTIFICATIONS

Prior to bidding on this project, the bidder must possess the correct license to perform the work described in the plans and specifications. Prior to award of the contract, the successful bidder must provide to the Contract Procurement Section its Contractor’s License Classification and number, its City of Phoenix Privilege License number and Federal Tax Identification number.

Bidder will submit the Bidder’s Disclosure Statement as set forth in Pages B.D.S. - 1 to B.D.S. - 4 within three calendar days of bid opening by 5:00 p.m.

Unless provided otherwise in this solicitation, Bidder will be deemed non-responsive and the bid rejected if Bidder fails to possess the proper Contractor’s and Business Licenses at the time of bid or fails to submit a substantially completed Bidder’s Disclosure Statement as specified above.

K. TAX LIABILITIES; DISCLOSURE OF CONVICTIONS AND BREACH(S) OF CONTRACT

On or before the award of the contract for this project, the successful bidder will: (i) file all applicable tax returns and will make payment for all applicable State of Arizona and Maricopa County Transaction Taxes (ARS Sec. 41-1305) and City of Phoenix Privilege License Taxes (Phoenix City Code Sec.14-415); (ii) disclose any civil fines, penalties or any criminal convictions, other than for traffic related offenses, for violation of federal, state, county or city laws, rules or regulations including, but not limited to, environmental, OSHA, or labor compliance laws (collectively “Laws”) by Bidder, Bidder’s directors, managing members, responsible corporate officers or party who will be responsible for overseeing and administering this project (collectively “Bidder”); and (iii) disclose any material breach(s) of an
agreement with the City of Phoenix, any termination for cause or any litigation involving the City of Phoenix occurring within the past three calendar years. Unless provided otherwise in this solicitation, the successful bidder will be deemed non-responsible and the bid rejected for any of the following: (i) Bidder’s civil or criminal conviction, other than for traffic related offenses, for a violation of Laws within the past three calendar years; (ii) liability or culpability resulting in payment of fines or penalties in the cumulative total amount of $100,000 or greater for a violation of “Laws” within the past three calendar years; (iii) material breach of a City of Phoenix agreement, termination for cause or litigation with the City of Phoenix within the past three calendar years; and (iv) Bidder’s failure to disclose the information as required by this provision. Further, after award of contract, in addition to any other remedy, Bidder’s failure to remit proper taxes to the City of Phoenix may result in the City withholding payment pursuant to Phoenix City Charter Chapter XVIII, Section 14 until all delinquent taxes, interest, and penalties have been paid.

State and Local Transaction Privilege Taxes:
In accordance with applicable state and local law, transaction privilege taxes may be applicable to this transaction. The state and local transaction privilege (sales) tax burden is on the person who is conducting business in Arizona and the City of Phoenix. The legal liability to remit the tax is on the person conducting business in Arizona. Any failure by the Contractor to collect applicable taxes from the City will not relieve the Contractor from its obligation to remit taxes.

It is the responsibility of the prospective bidder to determine any applicable taxes. The City will review the price or offer submitted and will not deduct, add or alter pricing based on taxes.

If you have questions regarding tax liability, seek advice from a tax professional prior to submitting bid. Once your bid is submitted, the Offer is valid for the time specified in this Solicitation, regardless of mistake or omission of tax liability.

If the City finds over payment of a project due to tax consideration that was not due, the Contractor will be liable to the City for that amount, and by contracting with the City agrees to remit any overpayments back to the City for miscalculations on taxes included in a bid price.

For purposes of A.R.S. 42-5075(P), this contract is subject to A.R.S. Title 34.

Tax Indemnification:
Contractor will, and require the same of all subcontractors, pay all federal, state and local taxes applicable to its operation and any persons employed by the Contractor. Contractor will, and require the same of all subcontractors, hold the City harmless from any responsibility for taxes, damages and interest, if applicable, contributions required under federal, and/or state and local laws and regulations and any other costs including transaction privilege taxes, unemployment compensation insurance, Social Security and Worker’s Compensation.

Tax Responsibility Qualification:
Contractor may be required to establish, to the satisfaction of City, that any and all fees and taxes due to the City or the State of Arizona for any License or Transaction Privilege taxes, Use Taxes or similar excise taxes, are currently paid (except for matters under legal protest).

Contractor agrees to a waiver of the confidentiality provisions contained in the City Finance Code and any similar confidentiality provisions contained in Arizona statutes relative to State Transaction Privilege Taxes or Use Taxes.

Contractor agrees to provide written authorization to the City Finance Department and to the
Arizona State Department of Revenue to release tax information relative to Arizona Transaction Privilege Taxes or Arizona Use Taxes in order to assist the Department in evaluating Contractor's qualifications for and compliance with contract for duration of the term of contract.

L. **STANDARD SPECIFICATIONS AND DETAILS**

Except as otherwise required in these specifications, bid preparation and construction of this project will 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 to the MAG Uniform Standard Specifications and Details, latest revision.

M. **PRECEDENCE OF CONTRACT DOCUMENTS**

In case of a discrepancy or conflict, the precedence of contract documents is as follows:

1. Change Orders or Supplemental Agreements
2. Addenda
4. The Plans
5. COP Supplement to MAG Standard Specifications and Details, latest revision
6. MAG Standard Specifications and Details, latest revision

The precedence of any Addenda falls within the category of which it represents.

N. **CONFIDENTIALITY OF PLANS & SPECIFICATIONS**

Any plans generated for this project must include the following statement in the Title Block on every page: “Per City of Phoenix City Code Chapter 2, Section 2-28, these plans are for official use only and may not be shared with others except as required to fulfill the obligations of Contractor's contract with the City of Phoenix.”

O. **AUDIT AND RECORDS**

Records of the Contractor's direct personnel payroll, bond expenses, and reimbursable expenses pertaining to this Project, and records of accounts between the City and Contractor will be kept on the basis of generally accepted accounting principles and must be made available to the City and its auditors for up to three years following Final Acceptance of the Project.

The City, its authorized representative, and/or any federal agency, reserves the right to audit the Contractor's records to verify the accuracy and appropriateness of all cost and pricing data, including data used to negotiate the Contract and any change orders.

The City reserves the right to decrease Contract price and/or payments made on this Contract and/or request reimbursement from the Contractor following final contract payment on this Contract if, upon audit of the Contractor's records, the audit discloses the Contractor has provided false, misleading, or inaccurate cost and pricing data.

The City reserves the right to decrease the Contract price and/or payments made on this
Contract and/or request reimbursement from the Contractor following final contract payment on this Contract if the above provision is not included in the Subcontractor’s and Supplier’s contracts, and one or more Subcontractors or Suppliers refuse to allow the City to audit their records to verify the accuracy and appropriateness of cost and pricing data.

If, following an audit of this Contract, the audit discloses the Contractor has provided false, misleading or inaccurate cost and pricing data, and the cost discrepancies exceed 1% of the total Contract billings, the Contractor will be liable for reimbursement of the reasonable, actual cost of the audit.

P. IMMIGRATION REFORM AND CONTROL ACT

Compliance with Federal Laws Required. Contractor understands and acknowledges the applicability of the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act to it. Contractor agrees to comply with these Federal Laws in performing under this Agreement and to permit City inspection of its personnel records to verify such compliance.

Q. LEGAL WORKER REQUIREMENTS

The City of Phoenix is prohibited by A.R.S. § 41-4401 from awarding a contract to any contractor who fails, or whose subcontractors fail, to comply with A.R.S. § 23-214(A). Therefore, Contractor agrees that:

1. Contractor and each subcontractor it uses warrants their compliance with all federal immigration laws and regulations that relate to their employees and their compliance with § 23-214, subsection A.

2. A breach of a warranty under paragraph 1 will be deemed a material breach of the contract that is subject to penalties up to and including termination of the contract.

3. The City of Phoenix retains the legal right to inspect the papers of any Contractor or subcontractor employee who works on the contract to ensure that the Contractor or subcontractor is complying with the warranty under paragraph 1.

R. CONTRACTOR AND SUBCONTRACTOR WORKER BACKGROUND SCREENING

Background Screening Requirements and Criteria

The City has established levels of risk and associated Background Screening. For Contractor services in the right-of-way, the risk level and Background Screening required is Minimum Risk. The risk level and background screening required for this project is Minimum.

Terms of This Section Applicable to all of Contractor's Contracts and Subcontracts

Contractor will include the terms of this Section for Contract Worker Background Screening in all contracts and subcontracts for services furnished under this Agreement including, but not limited to, supervision and oversight services.

(1.) Contract Worker Background Screening

Contractor agrees that all contract workers and subcontractors (collectively "Contract Worker(s)") that Contractor furnishes to the City pursuant to this Agreement will be subject to background and security checks and screening (collectively "Background Screening") at Contractor's sole cost and expense as set forth in this Section. The Background Screening provided by Contractor will comply with all applicable laws, rules and regulations. Contractor further agrees that the Background Screening required in this Section is necessary to preserve and protect public health, safety and welfare. The
Background Screening requirements set forth in this Section are the minimum requirements for this Agreement. The City in no way warrants that these minimum requirements are sufficient to protect Contractor from any liabilities that may arise out of Contractor’s services under this Agreement or Contractor’s failure to comply with this Section. Therefore, in addition to the specific measures set forth below, Contractor and its Contract Workers will take such other reasonable, prudent and necessary measures to further preserve and protect public health, safety and welfare when providing services under this Agreement. The City may, in its sole discretion, accept or reject any or all of the Contract Workers proposed by Contractor to perform work under this Agreement, as well those Contract Workers actually providing services during the term of this Agreement.

Minimum Risk Background Screening requirements include the following:

A Minimum Risk Background Screening will be performed when the Contract Worker: (i) will not have direct access to City facilities or information systems; or (ii) will not work with vulnerable adults or children; or (iii) when access to City facilities is escorted by City workers. The Background Screening for minimum risk will consist of the screening required by Arizona Revised Statutes §§ 41-4401 and following to verify legal Arizona worker status.

Standard Risk and Background Screening requirements include the following:

A Standard Risk Background Screening will be performed when the Contract Worker’s work assignment will: (i) require a badge or key for access to City facilities; or (ii) allow any access to sensitive, confidential records, personal identifying information or restricted City information; or (iii) allow unescorted access to City facilities during normal and non-business hours. The Background Screening for this standard risk level will include the Background Screening required for the Minimum Risk level and a background check for real identity/legal name, and will include felony and misdemeanor records from any county in the United States, the state of Arizona, plus any other jurisdiction where the Contract Worker has lived at any time in the preceding seven (7) years from the Contract Worker’s proposed date of hire.

Maximum Risk Background Screening requirements include the following:

A Maximum Risk Background Screening will be performed when the Contract Worker’s work assignment will: (i) have any contact with vulnerable people such as children, youth, elderly, or individuals with disabilities; or (ii) have any responsibility for the receipt or payment of City funds or control of inventories, assets, or records that are at risk of misappropriation; or (iii) have unescorted access to City data centers, money rooms, or high-value equipment rooms; or (iv) have access to private residences; or (v) have access to Homeland Defense Bureau identified critical infrastructure sites/facilities. The Background Screening for this maximum risk level will include the Background Screening required for the Standard Risk level, plus a sexual offender search, a credit check, and driving record search for the preceding seven (7) years from the Contract Worker’s proposed date of hire. Contract Workers who work directly with children or vulnerable adults are also subject to fingerprint verification through the Arizona Department of Public Safety as mandated by Phoenix City Code, § 2-45.6.

Contractor Certification; City Approval of Maximum Risk Background Screening
By executing this Agreement, Contractor certifies and warrants that Contractor has read the Background Screening requirements and criteria in this Section, understands them and that all Background Screening information furnished to the City is accurate and current. Also, by executing this Agreement, Contractor further certifies and warrants that Contractor has satisfied all such Background Screening requirements for the Minimum
Risk and Standard Risk Background Screenings as required. In addition, for Maximum Risk Background Screening, Contractor will furnish to the Street Transpiration Department for the City’s review and approval such Background Screenings for any Contract Worker considered for performing services under this Agreement where human safety or facility security is classified as a Maximum Risk level. The subject Contract Worker will not apply for the appropriate City of Phoenix identification and access badge or keys until Contractor has received the City’s written acceptance of the subject Contract Worker’s Maximum Risk Background Screening. A Contract Worker rejected for work at a Maximum Risk level under this Agreement will not be proposed to perform work under other City contracts or engagements without City’s prior written approval.

(2.) Materiality of Background Screening Requirements; Indemnity

The Background Screening requirements of this Section are material to City’s entry into this Agreement and any breach of this Section by Contractor will be deemed a material breach of this Agreement. In addition to the indemnity provisions set forth in Supplementary Conditions Section 7.G of this Agreement, Contractor will defend, indemnify and hold harmless the City for any and all Claims (as defined in Supplementary Conditions Section 7.G arising out of this Background Screening Section including, but not limited to, the disqualification of a Contract Worker by Contractor or the City for failure to satisfy this Section.

(3.) Continuing Duty; Audit

Contractor’s obligations and requirements that Contract Workers satisfy this Background Screening Section will continue throughout the entire term of this Agreement. Contractor will notify the City immediately of any change to a Maximum Risk Background Screening of a Contract Worker previously approved by the City. Contractor will maintain all records and documents related to all Background Screenings and the City reserves the right to audit Contractor’s compliance with this Section pursuant to Information for Bidders Section 1.M.

S. **LAWFUL PRESENCE REQUIREMENT**

Pursuant to A.R.S. §§ 1-501 and 1-502, the City of Phoenix is prohibited from awarding a contract to any natural person who cannot establish that such person is lawfully present in the United States. To establish lawful presence, a person must produce qualifying identification and sign a City-provided affidavit affirming that the identification provided is genuine. This requirement will be imposed at the time of contract award. This requirement does not apply to business organizations such as corporations, partnerships or limited liability companies.

T. **LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN (LEED)**

If practical, the contractor will provide an easily accessible area to serve the construction site that is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, glass, plastics, metals, and designate an area specifically for construction and demolition waste recycling. The contractor must provide documentation that the materials have been taken to a Maricopa County approved recycling facility.

U. **CITY OF PHOENIX EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENT**

1. In order to do business with the City, Contractor must comply with Phoenix City Code, 1969, Chapter 18, Article V, as amended, Equal Employment Opportunity Requirements. Contractor will direct any questions in regard to these requirements to the Equal Opportunity Department, (602) 262-6790.

2. Any Contractor in performing under this contract will not discriminate against any worker,
employee or applicant, or any member of the public, because of race, color, religion, sex, national origin, age, or disability nor otherwise commit an unfair employment practice. The Contractor will ensure that applicants are employed, and employees are dealt with during employment without regard to their race, color, religion, sex, national origin, age, or disability and will adhere to a policy to pay equal compensation to men and women who perform jobs that require substantially equal skill, effort, and responsibility, and that are performed within the same establishment under similar working conditions. Such action will include but not be limited to the following: Employment, promotion, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training; including apprenticeship. The Contractor further agrees that this clause will be incorporated in all subcontracts with all labor organizations furnishing skilled, unskilled and union labor, or who may perform any such labor or services in connection with this contract.

If the Contractor employs more than thirty-five employees, the following language will apply as the last paragraph to the clause above:

The Contractor further agrees not to discriminate against any worker, employee or applicant, or any member of the public, because of sexual orientation or gender identity or expression and will ensure that applicants are employed, and employees are dealt with during employment without regard to their sexual orientation or gender identity or expression.

3. Documentation. Contractor may be required to provide additional documentation to the Equal Opportunity Department affirming that a nondiscriminatory policy is being utilized.

4. Monitoring. The Equal Opportunity Department will monitor the employment policies and practices of suppliers and lessees subject to this article as deemed necessary. The Equal Opportunity Department is authorized to conduct on-site compliance reviews of selected firms, which may include an audit of personnel and payroll records, if necessary.

V. PROTEST PROCEDURES

Any bidder who has any objections to the awarding of a contract to any bidder by the City of Phoenix, pursuant to competitive bidding procedures, will comply with Phoenix City Code Chapter 2, Section 188.”

W. DATA CONFIDENTIALITY

As used in the Contract, “data” means all information, whether written or verbal, including plans, photographs, studies, investigations, audits, analyses, samples, reports, calculations, internal memos, meeting minutes, data field notes, work product, proposals, correspondence and any other similar documents or information prepared by, obtained by, or transmitted to the Contractor or its subcontractors in the performance of this Contract.

The parties agree that all data, regardless of form, including originals, images, and reproductions, prepared by, obtained by, or transmitted to the Contractor or its subcontractors in connection with the Contractor’s or its subcontractor’s performance of this Contract is confidential and proprietary information belonging to the City.

Except as specifically provided in this Contract, the Contractor or its subcontractors will not divulge data to any third party without prior written consent of the City. The Contractor or its subcontractors will not use the data for any purposes except to perform the services required under this Contract. These prohibitions will not apply to the following data provided the Contractor or its subcontractors have first given the required notice to the City:
A. Data which was known to the Contractor or its subcontractors prior to its performance under this Contract unless such data was acquired in connection with work performed for the City;

B. Data which was acquired by the Contractor or its subcontractors in its performance under this Contract and which was disclosed to the Contractor or its subcontractors by a third party, who to the best of the Contractor’s or its subcontractor’s knowledge and belief, had the legal right to make such disclosure and the Contractor or its subcontractors are not otherwise required to hold such data in confidence; or

C. Data which is required to be disclosed by virtue of law, regulation, or court order, to which the Contractor or its subcontractors are subject.

In the event the Contractor or its subcontractors are required or requested to disclose data to a third party, or any other information to which the Contractor or its subcontractors became privy as a result of any other contract with the City, the Contractor will first notify the City as set forth in this section of the request or demand for the data. The Contractor or its subcontractors will give the City sufficient facts so that the City can be given an opportunity to first give its consent or take such action that the City may deem appropriate to protect such data or other information from disclosure.

The Contractor, unless prohibited by law, within ten calendar days after completion of services for a third party on real or personal property owned or leased by the City, the Contractor or its subcontractors will promptly deliver, as set forth in this section, a copy of all data to the City. All data will continue to be subject to the confidentiality agreements of this Contract.

The Contractor or its subcontractors assume all liability for maintaining the confidentiality of the data in its possession and agrees to compensate the City if any of the provisions of this section are violated by the Contractor, its employees, agents or subcontractors. Solely for the purposes of seeking injunctive relief, it is agreed that a breach of this section will be deemed to cause irreparable harm that justifies injunctive relief in court. Contractor agrees that the requirements of this Section will be incorporated into all subcontracts entered into by Contractor. A violation of this Section may result in immediate termination of this Contract without notice.

Personal Identifying Information-Data Security

Personal identifying information, financial account information, or restricted City information, whether electronic format or hard copy, must be secured and protected at all times. At a minimum, Contractor must encrypt and/or password protects electronic files. This includes data saved to laptop computers, computerized devices or removable storage devices.

When personal identifying information, financial account information, or restricted City information, regardless of its format, is no longer necessary, the information must be redacted or destroyed through appropriate and secure methods that ensure the information cannot be viewed, accessed, or reconstructed.

In the event that data collected or obtained by Contractor or its subcontractors in connection with this Contract is believed to have been compromised, Contractor or its subcontractors will immediately notify the Project Manager and City Engineer. Contractor agrees to reimburse the City for any costs incurred by the City to investigate potential breaches of this data and, where applicable, the cost of notifying individuals who may be impacted by the breach.

Contractor agrees that the requirements of this Section will be incorporated into all subcontracts entered into by Contractor. It is further agreed that a violation of this Section will be deemed to cause irreparable harm that justifies injunctive relief in court. A violation of this Section may result in immediate termination of this Contract without notice.
The obligations of Contractor or its subcontractors under this Section will survive the termination of this Contract.

Y. PROJECT MANAGEMENT INFORMATION SYSTEM (PROMIS)

The Street Transportation Department’s Design and Construction Management (DCM) Project Manager may determine that use of PROMIS will be required during this contract. The following information provides a guideline for utilization. Any questions related to the requirements of PROMIS should be directed to the DCM Project Manager.

1. The contractor will be required to maintain all project records in electronic format. The City provides an Application Service Provider (ASP) web based project management database which the contractor will be required to utilize in the fulfillment of the contract requirements. Although this electronic platform does not fulfill this requirement in its entirety, the contractor will be required to utilize this platform as the basis for this work.

2. The contractor can expect to use this ASP to process all primary level tri-partite contract documents related to the design or construction phase of the Project including but not limited to: requests for interpretation/information, potential Change Orders, construction meeting minutes, Submittals, Design Professional’s supplemental instructions, and Payment Requests.

3. The contractor will be required to process information into electronic digital form. In order to fulfill this requirement, the contractor will provide all necessary equipment to perform the functions necessary to generate, convert, store, maintain, connect to web based ASP and transfer electronic data.

4. The contractor will provide a computerized networked office platform with broadband internet connectivity. Wired or wireless is acceptable. This platform will function well in a web based environment utilizing an internet browser compatible with the City PROMIS ASP system.

PROMIS training will be provided through the City of Phoenix. Contact information will be provided to the firms under contract, to establish the set up with a log-in and password.
CONSTRUCTION TRADE IDENTIFICATION WORKSHEET

PROJECT TITLE: 27th Avenue – Lower Buckeye Road to Buckeye Road Roadway Improvement
PROJECT NO.: ST85100341

Below is a listing of possible trade areas for this project. These were the trade areas identified in the goal setting process. However, the contractor may identify additional trade areas to be used.

Asphalt Paving
Demolition/Wrecking
Masonry
Manholes
Concrete
Landscape Material/Irrigation System/Granite
Pipeline / Underground Utilities
Hauling
Fencing
Metals: Steel /Aluminum Fabrication/Erection
Uniformed Police Officer
Street Lighting & Traffic Signal
Site Clearing & Grubbing
Surveying & Layout
Traffic Control Devices

Only SBE subcontractors certified by the City of Phoenix under Chapter 18, Article VII of the Phoenix City Code are eligible to fulfill the participation goal as stated. A firm’s certification must be current and in force at the date and time of the bid. The most current electronic listing of all Certified SBE firms can be accessed through the Internet at:

https://phoenix.diversitycompliance.com

SBE: 18%
SUPPLEMENTARY CONDITIONS

1. **103 AWARD AND EXECUTION OF CONTRACT**. Add the following to Subsection 103.3 AWARD OF CONTRACT:

Contract award will be made to a responsive and responsible bidder based on the low total base bid or on the low combination of the total base bid and any selected alternate(s), whichever is in the best interest of the City. If unit pricing is required in the proposal, the extensions and additions will be verified to assure correctness. Award will be based on the revised total if any errors are found. Additionally, the Contractor will meet the minimum SBE subcontracting goal set for this contract or have been granted a full or partial waiver of the goal. The City expressly reserves the right to cancel this agreement without recourse or prejudice to Contractor until all parties have executed the agreement in full.

Any bidder that currently contracts with the City must be in good standing for its proposal to be considered responsive. For the purpose of this Invitation to Bid, good standing means compliance with all contractual provisions, including payment of financial obligations.

2. **103 AWARD AND EXECUTION OF CONTRACT**. Add the following to Subsection 103.3 AWARD OF CONTRACT:

**NOTICE TO PROCEED**

Due to utility relocations required for this project, the Contractor’s Notice to Proceed (NTP) for construction may not be issued until as late as Summer 2019. After award of the contract, the successful bidder may request discussion with the City regarding a possible earlier start date for specific work in areas that will not impact the utility companies’ abilities to perform their major relocations or where the Contractor and the utilities could work together simultaneously without hindering each other’s progress; however, the intent is to allow the utilities sufficient time to perform the major relocations in advance of roadway construction. The City will have the final authority to set the NTP. The Contractor’s unit bid prices will take into consideration the assumption that a Notice to Proceed will not be issued until as late as Summer 2019 and will be considered final and accepted bid prices through the duration of the contract from the assumed anticipated start date.

3. **103 AWARD AND EXECUTION OF CONTRACT**. Add the following to Subsection 103.5, REQUIREMENT OF CONTRACT BONDS:

**A. PERFORMANCE BOND 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 will 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. A copy of the Certificate of Authority will accompany the bonds. The Certificate will have been issued or updated within two years prior to the execution of the Contract. The bonds will be made payable and acceptable to the City of Phoenix. The bonds will 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 required by law, and the bonds will have attached thereto a certified copy of Power of Attorney of the signing official. If one Power of Attorney is submitted, it will be for twice the total contract amount. If two Powers of Attorney are submitted, each will be for the total contract amount. Personal or individual bonds are not acceptable. Failure to comply with these provisions will be cause for rejection of the bidder’s proposal.
B. BONDING COMPANIES

All bonds submitted for this project will be provided by a company which has been rated “A- or better for the prior four quarters” by the A. M. Best Company. Failure to provide an "A- or better for the prior four quarters" bond will result in bid rejection.

4. 103 AWARD AND EXECUTION OF CONTRACT. Delete Subsection 103.6, CONTRACTOR’S INSURANCE in its entirety and substitute the following:

103.6.1 General:
Contractor and subcontractors must procure insurance against claims that may arise from or relate to performance of the work hereunder by Contractor and its agents, representatives, employees and subconsultants. Contractor and subcontractors must maintain that insurance until all of their obligations have been discharged, including any warranty periods under this Contract.

These insurance requirements are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract.

The City in no way warrants that the minimum limits stated in this section are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this Contract by the Contractor, its agents, representatives, employees, or subcontractors. Contractor is free to purchase such additional insurance as may be determined necessary.

MINIMUM SCOPE AND LIMITS OF INSURANCE - Contractor must provide coverage with limits of liability not less than those stated below. An excess liability policy or umbrella liability policy may be used to meet the minimum liability requirements provided that the coverage is written on a “following form” basis.

Commercial General Liability – Occurrence Form

Policy must include bodily injury, property damage, broad form contractual liability and XCU coverage.

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Aggregate</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Products – Completed Operations Aggregate</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Personal and Advertising Injury</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Each Occurrence</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>

The policy must be endorsed to include the following additional insured language: “The City of Phoenix is named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor, including completed operations.”

Automobile Liability
Bodily injury and property damage coverage for any owned, hired, and non-owned vehicles used in the performance of this Contract.

Combined Single Limit (CSL) $1,000,000

The policy must be endorsed to include the following additional insured language: “The City of Phoenix is named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor, including automobiles owned, leased, hired or borrowed by the Contractor.”
Worker’s Compensation and Employers’ Liability

<table>
<thead>
<tr>
<th></th>
<th>Statutory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers’ Compensation</td>
<td></td>
</tr>
<tr>
<td>Employers’ Liability</td>
<td>$100,000</td>
</tr>
<tr>
<td>Each Accident</td>
<td></td>
</tr>
<tr>
<td>Disease – Each Employee</td>
<td>$100,000</td>
</tr>
<tr>
<td>Disease – Policy Limit</td>
<td>$500,000</td>
</tr>
</tbody>
</table>

Policy must contain a waiver of subrogation against the City of Phoenix.

This requirement does not apply when a contractor or subcontractor is exempt under A.R.S. §23-902(E), **AND** when such contractor or subcontractor executes the appropriate sole proprietor waiver form.

**ADDITIONAL INSURANCE REQUIREMENTS:** The policies must include, or be endorsed to include, the following provisions:

On insurance policies where the City of Phoenix is named as an additional insured, the City of Phoenix is an additional insured to the full limits of liability purchased by the Contractor even if those limits of liability are in excess of those required by this Contract.

The Contractor’s insurance coverage must be primary insurance and non-contributory with respect to all other available sources.

With regard to general liability, the City of Phoenix is named as an additional insured for both products completed operations and premises operations.

A. **NOTICE OF CANCELATION**

For each insurance policy required by the insurance provisions of this Contract, the Contractor must provide to the City, within two business days of receipt, a notice if a policy is suspended, voided or cancelled for any reason. Such notice will be sent directly to the City of Phoenix Contract Specialist listed on Page I.B.-1 of these specifications and will be sent by certified mail, return receipt requested.

B. **ACCEPTABILITY OF INSURERS**

Insurance is to be placed with insurers duly licensed or authorized to do business in the state of Arizona and with an “A.M. Best” rating of not less than “B+VI.” The City in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

C. **VERIFICATION OF COVERAGE**

Contractor must furnish the City with certificates of insurance (ACORD form or equivalent approved by the City) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. **Any policy endorsements that restrict or limit coverage will be clearly noted on the certificate of insurance.**

All certificates and any required endorsements are to be received and approved by the City before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a
material breach of contract.

All certificates required by this Contract must be sent directly to the City of Phoenix Contract Specialist listed on Page I.B. - 1 of these specifications. The City project/contract number and project description must be noted on the certificate of insurance. The City reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time. **DO NOT SEND CERTIFICATES OF INSURANCE TO THE CITY’S RISK MANAGEMENT DIVISION.**

If the Certificate of Insurance reflecting policy coverage and cancellation notice does not conform to the City’s requirements, the contractor must:

- Submit a current insurance certificated (dated within 15 days of the payment request submittal) with each payment request form. The payment request will be rejected if the insurance certificate is not submitted with the payment request.

D. **SUBCONTRACTORS**

Contractors’ certificate(s) must include all subcontractors as additional insureds under its policies or subcontractors must maintain separate insurance as determined by the Contractor, however, subcontractor’s limits of liability must not be less than $1,000,000 per occurrence/$2,000,000 aggregate.

E. **APPROVAL**

Any modification or variation from the insurance requirements in this Contract must be made by the Law Department, whose decision is final. Such action will not require a formal Contract amendment, but may be made by administrative action.

F. **OFF-DUTY POLICE OFFICER REQUIREMENTS**

**Off Duty Police Officer Requirements**

It is required that the City provide off-duty police officers for construction projects as defined in the most recent edition of the City of Phoenix Traffic Barricade Manual. The Engineer must competitively procure Off Duty Police with vendors who are Authorized Traffic Coordinators with the City of Phoenix Police Department Off Duty Coordinator. The following requirements must be included in the procurement:

1. Hourly fees charged

2. Administrative fees (administrative fees to be charged as a part of the hourly rate, not billed separately)
   a. Pay applications requesting reimbursement for Off Duty Police hours worked will be accompanied with itemized documentation indicating officer name, date worked, hours worked, time of day worked and location.
   b. For audit purposes, contractor’s files will contain documentation from the successful off duty vendor that the above items are accounted for in the vendor’s price proposal.

3. Insurance Requirements:
   a. Commercial General Liability – Occurrence Form

   Policy must include bodily injury, property damage and broad form contractual liability
coverage.

General Aggregate $2,000,000
Products – Completed Operations Aggregate $1,000,000
Personal and Advertising Injury $1,000,000
Each Occurrence $1,000,000

The policy must be endorsed to include the City of Phoenix as an additional insured with respect to liability arising out of the activities performed by, or on behalf of, the contract worker.

b. Non-owned Auto Liability $1,000,000

Coverage must be provided if a City of Phoenix Police vehicle is being used in the performance of the off-duty traffic control services. The policy must be endorsed to include the City of Phoenix as an additional insured with respect to liability arising out of the use and operation of a City vehicle.

c. Worker's Compensation and Employers' Liability

Workers' Compensation Statutory
Employers' Liability
Each Accident $100,000
Disease – Each Employee $100,000
Disease – Policy Limit $500,000

Policy must contain a waiver of subrogation against the City of Phoenix.

103.6.2 Indemnification of City Against Liability

Contractor agrees to indemnify, defend, save, and hold harmless the City of Phoenix and its officers, agents and employees (and any jurisdiction or agency issuing permits for any work included in the project, and its officers, agents and employees), (“Indemnitee”) from all claims, actions, liabilities, damages, losses or expenses, (including court costs, attorney's fees and costs of claim processing, investigation and litigation) (“Claims”) caused or alleged to be caused, in whole or in part, by the wrongful, negligent or willful acts, or errors or omissions of Contractor or any of its owners, officers, directors, agents, employees, or subcontractors in connection with this Contract. This indemnity includes any Claim or amount arising out of or recovered under workers' compensation law or on account of the failure of Contractor to conform to any federal, state or local law, statute, ordinance, rule, regulation, or court decree. Contractor is responsible for primary loss investigation, defense and judgment costs where this indemnification applies. In consideration of the City's award of this Contract, Contractor agrees to waive all rights of subrogation against Indemnitee for losses arising from or related to this Contract. The obligations of Contractor under this provision survive the termination or expiration of this Contract.

5. 104 SCOPE OF WORK, Add the following to Subsection 104.1.2 MAINTENANCE OF TRAFFIC:

ADA AND ANSI ACCESS OF PREMISES DURING CONSTRUCTION

Contractor will maintain existing ADA and ANSI accessibility requirements during construction activities in an occupied building or facility. ADA and ANSI accessibility requirements will include, but not be limited to, parking, building access, entrances, exits, restrooms, areas of refuge, and emergency exit paths of travel.
Contractor will be responsible for the coordination of all work to minimize disruption to building occupants and facilities.

6. **104 SCOPE OF WORK**, Add the following to Subsection 104.1.4 CLEANUP AND DUST CONTROL:

The Contractor will use a power pick-up broom as part of the dust control effort. No separate measurement or payment will be made for cleanup or dust control, or for providing a power pick-up broom on the job.

7. **105 CONTROL OF WORK**, Add the following to Subsection 105.1, AUTHORITY OF THE ENGINEER:

A. CONTRACT ADMINISTRATION

   The definition of "Engineer" will read as follows:

   "Engineer": All references to "Engineer" in these contract bid documents, including the MAG Specifications, will mean City Engineer.

B. 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 Street Transportation Department, DCM Division, (telephone 602-495-2050), will schedule a Pre-Construction Conference. This will be held at 1034 East Madison Street, Phoenix, Arizona.

   Construction administration will be provided by City of Phoenix, Street Transportation Department, Design & Construction Management Division (DCM).

   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. The Contractor will also provide copies of all purchase orders and/or contracts with SBE subcontractors and suppliers used to meet the subcontract goals programmed for this project.

   Minimum attendance by the Contractor will 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.

C. AUTHORIZATION OF THE ENGINEER

   The City may, at its discretion and without cause, order the Contractor in writing to stop and suspend work. Immediately after receiving such notice, the Contractor will discontinue advancing the work specified under this Agreement.

   Such suspension will not exceed one hundred and eighty (180) consecutive days during the duration of the project.

   The Contractor may seek an adjustment of the contract price and time, if the cost or time to perform the work has been adversely impacted by any suspension or stoppage of work by the City.
8. **105 CONTROL OF WORK**, Add the following to **Subsection 105.2 PLANS AND SHOP DRAWINGS**:

The Contractor will submit as many of the required shop drawings and product data submittals at the Pre-Construction meeting as practical and possible. All shop drawings and product data submittals will be submitted sufficiently in advance to allow adequate time for City review(s) and approval. The Contractor will submit early enough to allow enough time for reviews based on the assumption that a submittal may be marked “Revise and Resubmit” or “Rejected”, requiring the Contractor to modify the submittal and resubmit for additional review(s) until acceptance.

A separate transmittal will be used for each specific item type, class of material or equipment for which a submittal is required. Multiple items under one transmittal will only be allowed when the items taken together constitute a complete manufacturer’s package, or are so functionally related that the entire package should be reviewed as a whole. The contractor will submit six (6) hard copies of each shop drawing for review. **Email or FAX submittals will not be accepted.**

The Contractor will allow up to four (4) weeks for City review for each submittal. Some submittals may be simple and straightforward and may not require the full four (4) weeks, but other more complex submittals may take the full four (4) weeks.

9. **105 CONTROL OF WORK**, Add the following to **Subsection 105.4 COOPERATION WITH UTILITIES**:

The Contractor is advised that the anticipated dry-up period for the existing Salt River Project Irrigation Facilities is between January through February, and the work will need to be scheduled and phased accordingly. The Contract will be required to coordinate with SRP personal and follow the requirements of the approved SRP Relocation Plans.

10. **105 CONTROL OF WORK**, Add the following to **Subsection 105.7 COOPERATION BETWEEN CONTRACTORS**:

Other Contractors are expected to be working in or near the area of this contract. The Contractor will be under construction while this project is being constructed. The Contractor will conduct his work as specified in MAG Section 105.7.

11. **105 CONTROL OF WORK**, Add the following to **Subsection 105.8, CONSTRUCTION STAKES, LINES AND GRADES**:

A. **SURVEY**

The City of Phoenix Street Transportation Department, Design & Construction Management Division (DCM) will set the construction stakes establishing lines, grades, and elevations to include necessary utilities and appurtenances and will be responsible for their conformance with plans and specifications. DCM will establish or designate a control line or benchmark of known location and elevation for use as a reference.

B. **RECORD DRAWINGS**

The Contractor will maintain a record set of plans at the job site. These will be kept legible and current and will show all changes or work added in a contrasting, reproducible color. Two weeks prior to issuance of substantial completion, the Contractor will submit, prior to final inspection, corrected landscape drawings showing the location of all utility services, controller, pipe, valves and wiring. The Engineer will be the sole judge as to the acceptability of the record plans and receipt of an acceptable
set is a pre-requisite for final payment.

12. **105 CONTROL OF WORK**, Add the following to Subsection 105.15 ACCEPTANCE, paragraph (B) Final Acceptance:

   A. **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 will have thirty (30) days thereafter to complete punch list work, unless additional time is granted—in writing—by the Engineer. In no case will 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.

   B. **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 will 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 will 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 will be deducted from the Contractor's final payment and the remaining funds, if any, including the contract retention, will be released in accordance with the conditions set forth in contract retention.

   C. **CONTRACT RETENTION**

   This project will not be considered complete until all work has been completed, including punch list work. Under no circumstances will 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 will 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.

13. **105 CONTROL OF WORK**, Add the following to Subsection 105.6 COOPERATION WITH UTILITIES:

   **105.6.3 Coordination with Salt River Project**

   The City will require the contractor to coordinate with the Salt River Project to perform the relocations of its irrigation facilities located between Sta 103+00 and Sta 110+00. At the discretion of the Engineer, this work may be completed by other forces and eliminated from this contract. No additional compensation will be granted arising from the elimination of this work.

14. **107 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC**, Add the following to Subsection 107.1, LAWS TO BE OBSERVED, paragraph (C):

   While every effort has been made to Blue Stake all known utilities, and to research and show on the plans, all existing underground utilities based on the best available information, it will be the Contractor’s responsibility to locate and pothole all existing utilities sufficiently in advance of anticipated new underground construction to identify any potential conflicts and allow reasonable time for the Engineer to determine solutions. Any claims for additional compensation or work required due to the Contractor’s non-compliance with this provision will not be considered for payment by the City.

15. **107 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC**, Add the following new paragraphs to Subsection 107.1, LAWS TO BE OBSERVED:

   **(G) FAIR TREATMENT OF WORKERS**

   The Contractor will keep fully informed of all Federal and State laws, County and City ordinances, regulations, codes and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any way affect the conduct of the work. He will at all times observe and comply with all such laws, ordinances, regulations, codes, orders and decrees; this includes, but is not limited to laws and regulations ensuring fair and equal treatment for all employees and against unfair employment practices, including OSHA and the Fair Labor Standards Act (FLSA). The Contractor will protect and indemnify the Contracting Agency and its representatives against any claim or liability arising from or based on the violation of such, whether by himself or his employees.

   **(H) DESERT TORTOISE MITIGATION**

   As stated in the Arizona Interagency Desert Tortoise Team (AIDTT) Management Plan (1996), if a desert tortoise is found in a project area, activities should be modified to avoid injuring or harming it. If activities cannot be modified, tortoises in harm’s way should be moved in accordance with Arizona Game and Fish Department’s “Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects”, revised October 23, 2007 (or the latest revision), included in these contract provisions. Taking, possession, or harassment of a desert tortoise is prohibited by State law, unless specifically authorized by Arizona Game and Fish Department.

   **(I) BURROWING OWLS MITIGATION – MIGRATORY BIRD TREATY ACT OF 1918**  *(Note to PMs: Insert only when requested by Environmental staff)*
While no burrowing owls have been seen at the project site, small animal burrows likely used by rodents and cottontail rabbits are present. In the event that burrowing owls are found on the site, the project will comply with the Migratory Bird Treaty Act of 1918 and relocate the birds prior to grading. A contact for relocation of burrowing owls is Bob Fox or Greg Clark of Wild at Heart, 31840 North 45th Street, Cave Creek, AZ 85331, 480-595-5047.

16. **107 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC**, Add the following to **Subsection 107.2, PERMITS**:

1. **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 will:

   A. Obtain approval of the proposed haul route, number of trucks, etc., by the Street Transportation Department, and then;

   B. Submit the proposed haul route plan to the Planning and Development Department and pay the appropriate plan-review fee (contact Planning and Development Department at 602-534-5933 for current plan review fee, the cost of which will be considered incidental to the project), and after their approval;

   C. Obtain the written haul permit from the Planning and Development 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.

2. **STORM WATER POLLUTION PREVENTION PLAN AND AZPDES PERMIT**

   Any project that disturbs 1 acre or more of the ground surface requires the Contractor to obtain an AZPDES permit and prepare a SWPPP. This project does require an AZPDES permit and SWPPP.

3. **DUST PERMIT**

   Any project that disturbs more than 1/10 acre of soil requires an earthmoving permit from Maricopa County. Information and forms can be found at:


   To facilitate and encourage strict compliance with the Maricopa County Air Pollution Control Regulations pertaining to fugitive dust control, the Contractor will submit the following documentation to the Engineer at the Pre-Construction meeting prior to conducting any earth moving or dust generating activities under the Contract.

   a. Copy of a valid Maricopa County Earth Moving (Dust Control) Permit applicable to the work or services under the Contract.

   b. Copy of the Dust Control Plan applicable to the work or services under the Contract.

   c. Documentation that all of the Contractor’s on-site project managers have received the Comprehensive or Basic dust control training as required by Maricopa County Rule 310.
based on project disturbed acres.

For construction sites where 5-acres or more are disturbed, the Contractor will designate and identify to the City an individual who has completed the dust control training as required for the site Dust Control Coordinator. The Dust Control Coordinator will be present on-site all times that earth moving or dust generating activities are occurring and until all ground surfaces at the site have been stabilized.

For construction sites less than 1-acre, the Contractor will designate an individual who has completed Basic Training to be on site at all times that earth moving or dust generating activities are occurring.

The Contractor will notify the Engineer within twenty-four (24) hours of any inspection, Notice of Violation, or other contact by the Maricopa County Air Quality Department with it or any of its subcontractors regarding the work or services under the Contract. A copy of any written communications, notices or citations issued to Contractor or any of its subcontractors regarding the work or services under the Contract will likewise be transmitted to the Engineer within twenty-four (24) hours.

The Contractor will prevent any dust nuisance due to construction operations in accordance with MAG Specifications, Section 104.1.3, Cleanup and Dust Control. The Contractor will use a power pick-up broom as part of the dust control effort. No separate measurement or payment will be made for cleanup or dust control, or for providing a power pick-up broom on the job.

The Contractor agrees to indemnify and reimburse the City for any fine, penalty, fee or monetary sanction imposed on the City by Maricopa County arising out of, or caused by the performance of work or services under the Contract. The Contractor will remit payment of the reimbursable sum to the City within thirty (30) days of being presented with a demand for payment from the City.

5. TEMPORARY RESTRICTION AND CLOSURE SYSTEM (TRACS) PERMIT

The Contractor will obtain a TRACS permit for any construction that restricts access (partial or complete closures) on Major/Collector public streets, or complete closures on Local streets, sidewalks, bike lanes and alleys. The Contractor will obtain this permit in accordance with the City of Phoenix Traffic Barricade Manual, latest edition. The Contractor will follow all requirements of the TRACS permit during construction. The Contractor will obtain this permit before the Notice to Proceed date. Any construction delays caused by non-compliance with the TRACS permit or the City of Phoenix Traffic Barricade Manual requirements will be the responsibility of the Contractor.

6. DEMINIMUS DISCHARGE PERMIT

As required, if the Contractor anticipates the discharge of any amount of water from the City water or wastewater system during construction, the Contractor will be responsible for obtaining a DeMinimus Permit from the Arizona Department of Environmental Quality (ADEQ) for any discharge that will reach “waters of the U.S.”, either directly or indirectly, and complying with all requirements of that permit. This includes all compliance reporting required by the permit. No separate payment will be made for obtaining or complying with this permit.

7. OTHER PERMITS

The Contractor may be required to obtain other permits from other agencies, such as the Arizona Department of Transportation (ADOT) or the Flood Control District of Maricopa County (FCDMC) before beginning work or restricting traffic in their right-of-way. The Contractor will be required to obtain these...
permits and comply with their requirements.

17. **107 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC.** Revise the title of Subsection 107.4 ARCHAEOLOGICAL REPORTS to 107.4 ARCHAEOLOGICAL MONITORING AND DISCOVERIES, and add the following:

Archaeological monitoring will be conducted within the limits of the project during construction. The Contractor will coordinate all ground disturbing work with the archaeologist(s) and provide a current work schedule to facilitate the archaeologist's investigation and monitoring of all ground disturbing work within the area(s) of interest. When archaeological materials are discovered, the Contractor will stop work immediately within a 10-meter zone of the discovery, secure the area, and immediately notify the on-site archaeologist(s) who will then contact the City Archaeology Office (602-495-0901). The Contractor will not recommence work in the area of discovery until directed in writing by the City Archaeology Office.

If suspected archaeological materials are discovered during construction without an archaeologist present, the Contractor will stop work immediately within a 10-meter zone of the discovery, secure the area, and immediately notify the City Archaeology Office (602-495-0901). The Contractor will not recommence work in the area of discovery until directed in writing by the City Archaeology Office.

18. **107 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC.** Modify Subsection 107.8, USE OF EXPLOSIVES as follows:

Replace the words "Uniform Fire Code" with "Phoenix Fire Code".

19. **107 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC.** Add the following to Subsection 107.11, CONTRACTOR’S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES:

A. **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"), will 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.

The Contractor will be responsible for obtaining all Blue Stake utility location information, and for performing all requirements as prescribed in A.R.S. 40-360.21 through .29, for all underground facilities, including those that have been installed on the current project, until the project is accepted by the City.

At least two (2) working days prior to commencing any excavation, the Contractor will call the BLUE STAKE CENTER, between the hours of 7:00 a.m. and 4:30 p.m., Monday through Friday for information relative to the location of buried utilities. The number to be called is as follows:

Maricopa County   (602) 263-1100

B. **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 will immediately notify, in writing, the Project Engineer of any potential utility-related delay claim.

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

The Contractor will coordinate an investigation of the situation with the affected utility and the City’s Utility Coordinator. After resolution, the Contractor will provide written notification of the settlement of the claim to all affected parties. 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 will determine to document requirements of the affected utility for their acceptance of responsibility for the claims. The Contractor will 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 will obtain written confirmation from the utility company involved of their documentation requirements.

20. **108 COMMENCEMENT, PROSECUTION AND PROGRESS** Add the following to Subsection 108.2, SUBLETTING OF CONTRACT:

(F) **PROMPT PAYMENT**

1. **Contractor Payment to Subcontractor or Supplier**

   Contractor will pay its subcontractors or suppliers within seven (7) calendar days of receipt of each progress payment from the City. The Contractor will pay for the amount of work performed or materials supplied by each subcontractor or supplier as accepted and approved by the City with each progress payment. In addition, any reduction of retention by the City to the Contractor will result in a corresponding reduction to subcontractors or suppliers who have performed satisfactory work. Contractor will pay subcontractors or suppliers the reduced retention within fourteen (14) days of the payment of the reduction of the retention to the Contractor. No Contract between Contractor and its subcontractors and suppliers may materially alter the rights of any subcontractor or supplier to receive prompt payment and retention reduction as provided herein. If the Contractor fails to make payments in accordance with these provisions, the City may take any one or more of the following actions and Contractor agrees that the City may take such actions: (1) to hold the Contractor in default under this agreement; (2) withhold future payments including retention until proper payment has been made to subcontractors or suppliers in accordance with these provisions; (3) reject all future bids from the Contractor for a period not to exceed one year from substantial completion date of this project; or (4) terminate agreement.

2. **Alternative Dispute Resolution Between Contractor and Subcontractor or Supplier**

   If Contractor’s payment to a subcontractor or supplier is in dispute, Contractor and subcontractor or supplier agree to submit the dispute to any one of the following dispute resolution processes within fourteen (14) calendar days from the date that any party involved gives written notice to the other party(ies): (1) binding arbitration; (2) a form of alternative dispute resolution (ADR) agreeable to all parties; or (3) a City of Phoenix facilitated mediation. When disputed claim is resolved through ADR or
otherwise, the Contractor and subcontractor or supplier agree to implement the resolution within seven (7) calendar days from the resolution date.

3. **Inspection and Audit**

Contractor, its subcontractors and suppliers will comply with A.R.S. 35-214 and the City will have all rights and remedies to inspect and audit the records and files of Contractor, subcontractor or supplier, as afforded the State of Arizona in accordance with the provisions of A.R.S. Section 35-214.

4. **Non-Waiver**

Should the City fail or delay in exercising or enforcing any right, power, privilege, or remedy under this Section, such failure or delay will not be deemed a waiver, release, or modification of the requirements of this Section or of any of the terms or provisions thereof.

5. **Inclusion of provisions in Subcontracts**

Contractor will include these prompt payment provisions in every subcontract, including procurement of materials and leases of equipment for this Agreement.

6. **No Third Party Benefits or Rights**

Nothing contained in this Agreement is intended to benefit or confer any rights on any person or entity not a party to this Agreement, and no such person or entity, including but not limited to other Contractors, subcontractors or suppliers, may assert any claim, cause of action, or remedy against the City hereunder.

21. **108 COMMENCEMENT, PROSECUTION AND PROGRESS, Add the following to Subsection 108.4, CONTRACTOR’S CONSTRUCTION SCHEDULE:**

No later than one (1) week after the Pre-Construction meeting (or one week after the Notice to Proceed date is firmly established), the Contractor will submit to the Engineer, two (2) copies of a detailed Critical Path Model (CPM) chart outlining the detailed progress of all major and critical elements of the project by weeks, from beginning of project to end. The chart will begin at the established Notice to Proceed date and progress on a calendar basis, week by week, to the end of the project.

The Contractor will submit updated CPM charts as required by the Engineer. This will typically be on a monthly basis. The required submittals of updated CPM charts may be less frequent than monthly, if approved by the Engineer.

Neither the City nor the Engineer will accept liability or responsibility for the reasonable or workable nature of the CPM schedules prepared and submitted by the Contractor—that responsibility will remain with the Contractor.

22. **108 COMMENCEMENT, PROSECUTION AND PROGRESS, Add the following to Subsection 108.5, LIMITATION OF OPERATIONS:**

A. **WORK HOURS**

Regular working hours will be defined as one 8-1/2 hour shift per day, Monday through Friday, exclusive of City holidays.
Work in excess of regular working hours will be defined as overtime. For overtime which becomes necessary, the Contractor will make a written request to the Engineer at least eight (8) calendar days before the desired overtime. The request will include the duration, dates, times, reason for overtime, and a statement of the consequences if overtime is not approved.

The Contractor will not schedule any overtime work which requires inspection, survey, or material testing without 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, including extended overhead costs.

**Unscheduled Overtime**

Overtime that is not requested and approved in accordance with the above procedure will be defined as unscheduled overtime. All costs (including appropriate overhead) will be paid by the Contractor by deduction from the contract.

**Emergency Overtime**

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

With the Engineer's approval, the Contractor will be permitted to work overtime without being responsible for paying the City's costs.

23. **108 COMMENCEMENT, PROSECUTION AND PROGRESS.** Add the following to Subsection 108.10, **FORFEITURE AND DEFAULT OF CONTRACT:**

**City's Right to Perform and Terminate for Cause**

If the City provides the Contractor with a written order to provide adequate maintenance of traffic, adequate cleanup, adequate dust control or to correct deficiencies or damage resulting from abnormal weather conditions, and the Contractor fails to comply in a time frame specified, the City may have work accomplished by other sources at the Contractor's expense.

If Contractor persistently fails to (i) provide a sufficient number of skilled workers, (ii) supply the materials required by the Contract Documents, (iii) comply with applicable Legal Requirements, (iv) timely pay, without cause, Sub-consultants and/or Subcontractors, (v) prosecute the Contract Services with promptness and diligence to ensure that the Contract Services are completed by the Contract Time, as such times may be adjusted, or (vi) perform material obligations under the Contract Documents, then the City, in addition to any other rights and remedies provided in the Contract Documents or by law, will have the rights set forth below.

Upon the occurrence of an event set forth above, City may provide written notice to Contractor that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of Contractor's receipt of such notice.

If Contractor fails to cure, or reasonably commence to cure, such problem, then City may give a second written notice to Contractor of its intent to terminate within an additional seven (7) day period.

If Contractor, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then the City may declare the Agreement terminated for default by providing written notice to Contractor of such declaration.
Upon declaring the Agreement terminated pursuant to the above, City may enter upon the premises and take possession, for the purpose of completing the Work, of all materials, equipment, scaffolds, tools, appliances and other items thereon, which have been purchased or provided for the performance of the Work, all of which Contractor hereby transfers, assigns and sets over to City for such purpose, and to employ any person or persons to complete the Work and provide all of the required labor, services, materials, equipment and other items.

In the event of such termination, Contractor will not be entitled to receive any further payments under the Contract Documents until the Work will be finally completed in accordance with the Contract Documents. At such time, the Contractor will only be entitled to be paid for Work performed and accepted by the City prior to its default.

If City's cost and expense of completing the Work exceeds the unpaid balance of the Contract Price, then Contractor will be obligated to pay the difference to City. Such costs and expense will include not only the cost of completing the Work, but also losses, damages, costs and expense, including attorneys' fees and expenses, incurred by the City in connection with the re-procurement and defense of claims arising from Contractor's default.

24. **108 COMMENCEMENT, PROSECUTION AND PROGRESS** Add the following to **Subsection 108.11, TERMINATION OF CONTRACT**:

**TERMINATION FOR CONVENIENCE**

The Owner for its own convenience has the right for any reason and at any time to terminate the contract and require the Contractor to cease work hereunder. Such termination will be effective at the time and in the manner specified in the notification to the Contractor of the termination. Such termination will be without prejudice to any claims which the Owner may have against the Contractor. In the event of a termination for convenience, the Contractor will be paid only the direct value of its completed work and materials supplied as of the date of termination, and Contractor will not be entitled to anticipated profit or anticipated overhead or any other claimed damages from the Owner, Architect or the Engineer.

If the City is found to have improperly terminated the Agreement for cause or default, the termination will be converted to a termination for convenience in accordance with the provisions of this Agreement.

**CANCELLATION OF CONTRACT FOR CONFLICT OF INTEREST**

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.

25. **109 MEASUREMENTS AND PAYMENTS** Add the following to **Subsection 109.2, SCOPE OF PAYMENT**:

**A. PARTIAL PAYMENTS**

The contracting agency will make a partial payment to the Contractor on the basis of an approved estimate prepared by the Engineer or the Contractor 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. City will review payment requests and make recommendation of approval or denial within seven (7) calendar days.
B. PAYMENT RETENTION

At the start of construction, ten percent of all pay requests will be retained by the City to guarantee complete performance of the contract. When the work is fifty percent complete, this amount may be reduced to five percent providing that construction progress and quality of work is acceptable to the City. Any funds which are withheld from the contractor will be paid no later than sixty days after completion of the contract and settlement of all claims.

In lieu of retention, the contractor may provide as a substitute, an assignment of time certificates of deposit (CDs) from a bank licensed by Arizona, securities guaranteed by the United States, securities of the United States, the State of Arizona, Arizona counties, Arizona municipalities, Arizona school districts, or shares of savings and loan institutions authorized to transact business in Arizona.

Securities deposited in lieu of retention must be deposited into a separate account with a bank having a branch located in the City of Phoenix and be assigned exclusively for the benefit of the City of Phoenix pursuant to the City's form of escrow agreement.

CDs assigned to the City must be maintained in the form of time deposit receipt accounts. CDs will be assigned exclusively for the benefit of the City of Phoenix pursuant to the City's form of escrow agreement.

Escrow Agreement forms may be obtained from the Contract Specialist assigned to the project.

26. 109 MEASUREMENTS AND PAYMENTS. Add the following to Subsection 109.4.3, DUE TO EXTRA WORK:

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 will incorporate the amount pre-entered in the bid proposal and will 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, will 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 will be understood that this allowance item is an estimate only and is based on change order history of similar projects. It will 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.

27. 109 MEASUREMENTS AND PAYMENTS. Add the following to Subsection 109.4 COMPENSATION FOR ALTERATION OF WORK:

109.4.7 CHANGE ORDERS

Owner reserves the right to decrease adjustments made in any change order if, upon audit of Contractor's records, the audit discloses contractor provided false or inaccurate cost and pricing data in negotiating the change order. In enforcing this provision, the parties will follow the procedure provided in the Federal Acquisition Regulation (FAR) clause 52.214-27, found in 48 CFR Part 52.
28. **109 MEASUREMENTS AND PAYMENTS**

   Delete Table 109-1 in Subsection 109.9, DOLLAR VALUE OF MAJOR ITEM, and substitute the following:

<table>
<thead>
<tr>
<th>CONTRACT AMOUNT</th>
<th>MAJOR ITEM IS DEFINED AS ANY ITEM EQUAL TO OR GREATER THAN THE FOLLOWING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to $1 million</td>
<td>$15,000 or 3%, whichever is greater</td>
</tr>
<tr>
<td>$1 million to $3 million</td>
<td>3% of the original contract amount to a maximum of $75,000.00</td>
</tr>
<tr>
<td>$3 million to $5 million</td>
<td>2.5% of the original contract amount to a maximum of $90,000.00</td>
</tr>
<tr>
<td>Over $5 million</td>
<td>1.5% of the original contract amount to a maximum of $125,000.00</td>
</tr>
</tbody>
</table>

**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 will 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.

29. **110 NOTIFICATION OF CHANGED CONDITIONS AND DISPUTE RESOLUTION**

   Add the following to Subsection 110.1 GENERAL:

   **SOILS INFORMATION**

   The material boring logs shown on the plans or included in these specifications are included for the Contractor's convenience only. It is not intended to imply that the character of materials shown in the logs is representative throughout the project. **The soil borings are indicative of the soil characteristics only at the location and to the depth of each of the borings.**

   Even if not specifically shown in the geotechnical information provided, the Contractor may encounter large cobbles, boulders, caliche, conglomerate, hard rock, perched groundwater, historic or prehistoric cultural resources, or other differing site conditions on this project. **No additional compensation will be made for any differing site condition that may be encountered.**
SPECIAL PROVISIONS

1. Add the following new Section, **232 STORM WATER POLLUTION PREVENTION – BEST MANAGEMENT PRACTICES**:

Description

Implementation of "Best Management Practices" (B.M.P.’s) to reduce stormwater pollution will be undertaken by the Contractor on a multi-tiered, most cost-effective approach. The Contractor will utilize the lowest-cost acceptable B.M.P. available to address each type of potential stormwater pollution situation encountered on the project. Should this prove ineffective in resolving the stormwater pollution problem, additional, higher-cost B.M.P.’s may need to be employed, upon approval by the City.

Construction Requirements

Typical multi-tiered B.M.P. approaches to construction operations may include:

A. ROADWAY SUBGRADE EXCAVATION:

   1. Tier I - The excavated area will create, in effect, a temporary retention area. This may provide adequate control of storm runoff to prevent sediment from leaving the site. Pumping or other methods utilized to drain the excavation will employ filter fabric or other filtering method to remove sediment before leaving the site or entering the storm drain system.

   2. Tier II - Catch basin inlet protection (utilizing filter fabric, gravel, etc.) may be necessary should Tier I controls prove inadequate. Care will be exercised to ensure that Tier II B.M.P.'s do not result in blockage of drainage and resultant flooding of adjacent properties.

B. OPEN PIPELINE TRENCHES:

   1. Tier I - The open trench itself will act as a temporary retention area. The Contractor will provide a low-cost, readily-installed/removed temporary device on the open end of the pipe to prevent sediment-laden stormwater from entering the pipe. This may consist of a temporary "plug" incorporating filter fabric, a temporary weir, or other device capable of removing sediment before allowing stormwater to enter the pipe. Care must be taken to prevent damming of floodwaters in the excavation that could result in "floating" the pipe.

   2. Tier II - If Tier I protection does not prove satisfactory, the Contractor may need to install straw bales, sandbag berms, or temporary diversion dikes around the perimeter of the open excavation to prevent sediment-laden stormwater from entering the open excavation. Due to installation/removal time, such devices need only be installed during periods of likely precipitation and runoff. Earthen dikes are the preferred alternate, due to ease of installation and removal. Care must be taken to assure that runoff is not blocked to the extent that flooding of adjacent properties will result.

C. BACKFILLED PIPELINE TRENCHES:

   1. Tier I - As with roadway subgrade excavations, pipeline trenches which have been backfilled but not yet paved will be several inches lower than adjacent pavement areas, and will therefore act as temporary retention areas.
2. Tier II - If the “retention” provided by the backfilled area does not prevent sediment-laden runoff from leaving the excavated area, perimeter controls such as silt fence, straw bales, sandbag berms, or gravel filter berms may need to be installed around the downstream edge(s) of the backfilled area. As with open trenches, the selection of the appropriate measure, extent of its application, and time period during which it is needed will be dependent upon cost, site conditions, ease of installation/removal, and likelihood of precipitation/runoff. Again, care must be taken to ensure that diversion of stormwater onto adjacent properties does not result from these installations.

Another stormwater control method, which the Contractor may need to consider, is limiting the amount of area disrupted and therefore subject to sediment-laden stormwater runoff at any one time. Should such project phasing prove necessary due to the failure of other B.M.P.’s, the Contractor will revise his construction activities accordingly, at no additional cost to the City.

Standards for installation of the above B.M.P.’s are provided in the Flood Control District of Maricopa County’s "Drainage Design Manual for Maricopa County, Arizona, Volume III, Erosion Control". Installation and operation of B.M.P.’s will be in accordance with that manual.

There will be no separate measurement or payment for preparing or developing Storm Water Pollution Prevention Plans, or for preparing NOI’s or NOT’s or obtaining an AZPDES Permit, all these costs being considered incidental to the cost of the project.

Use of individual BMP items will conform to the Contractor’s approved Storm Water Pollution Prevention Plan (SWPPP).

Measurement and Payment

This project includes a pay item “ALLOWANCE FOR STORMWATER POLLUTION PREVENTION BEST MANAGEMENT PRACTICE (BMP’S)”. The amount of this allowance is determined by the Engineer, and is not subject to individual bid pricing. All bidders will incorporate the amount pre-entered in the bid proposal and will reflect the same in the total amount bid for this project.

Payment for various types of necessary BMP’s will be made from this allowance based on approved invoiced cost of the materials only, plus taxes, and a maximum 15 percent markup for overhead and profit. There will be no separate measurement or payment for the preparation or development of the Storm Water Pollution Prevention Plan; labor or equipment necessary to install, maintain or remove the BMP materials; moving existing BMP materials from one location to another on the same project; or constructing BMP swales or berms, all of these costs being considered incidental to the cost of the project.

2. **301 SUBGRADE PREPARATION**: Add the following to **Subsection 301.1, DESCRIPTION**:

The work under Subgrade Preparation consists of all excavating and grading work necessary to bring the existing surface to the section specified on the plans prior to the covering of the prepared subgrade with pavement base materials.

3. **301 SUBGRADE PREPARATION**, Add the following to **Subsections 301.7, MEASUREMENT, and 301.8, PAYMENT**:

**301.7 MEASUREMENT:**
Measurement for subgrade preparation will be made by the square yard of the roadway areas excavated and graded and subsequently covered with pavement base materials. Payment for necessary grading for items outside of the lip of gutter will be included in the cost of those items.

Project earthwork quantities for Roadway Excavation, Borrow Excavation, and Fill Construction shall not be separately measured when they are not listed as separate line items on the fee proposal form. In such case, unless otherwise specified, payment for said earthwork items shall be included in the unit price for Subgrade Preparation.

301.8 PAYMENT

Payment will be made at the unit price quoted in the bid proposal for the bid item "SUBGRADE PREPARATION".

4. 336 PAVEMENT MATCHING AND SURFACING REPLACEMENT, Add the following to Section 336 PAVEMENT MATCHING AND SURFACING REPLACEMENT:

ASPHALT CONCRETE REPLACEMENT (DRIVEWAY AND PARKING LOT CONNECTIONS)

Construction Requirements

Asphalt concrete will be removed and replaced to match existing asphalt concrete frontage in back of new sidewalks and driveways, as detailed and noted on the plans and as directed by the Engineer. Existing asphalt concrete will be trimmed and removed in accordance with Section 336.2.2.

Measurement and Payment

Payment will be made at the bid price per ton for "ASPHALT CONCRETE SURFACE COURSE D-1/2 (DRIVEWAY AND PARKING LOT CONNECTIONS)" complete-in-place within the areas as specified above, and will include removal and disposal of existing materials and subgrade preparation. Aggregate base materials, where required, will be paid under that proposal item.

21. 340 CONCRETE CURB, GUTTER, SIDEWALK RAMPS, DRIVEWAY AND ALLEY ENTRANCE, Add the following to Subsection 340.2.1 Detectable Warnings; Subsection 340.3.1 Detectable Warnings; Subsection 340.5 MEASUREMENT; and Subsection 340.6 PAYMENT:

Add the following to MAG Subsection 340.2.1 Detectable Warnings:

Detectable warning material will meet the latest ADA requirements. Approved detectable warning material manufacturers include the following:
   a. Strongo, TekWay Dome-Tiles
   b. Tuftile, Cast Iron ADA Detectible Warning Plates
   c. Neenah Foundry, Cast Iron Detectable Warning Plate

Alternate materials may be submitted subject to review and approval prior to use. All detectable warnings will be of the same type and color within the project limits, unless otherwise specified.

Add the following to MAG Subsection 340.2.1.1 Color and Contrast:

Unless shown otherwise on the plans, the color of the detectable warning tiles to be used shall be terracotta
color on grey concrete and yellow color on colored concrete sidewalk ramps – color to be approved by the Engineer.

Add the following to **MAG Subsection 340.3.6 Detectable Warnings**:

Detectable warning plates will be installed per manufacturer’s recommended specifications. The layout of plates will be determined by the Contractor, and if necessary, pre-cut as needed prior to beginning the installation process to meet ADA placement requirements. Plates will not be cut to less than half their size. Plates will be cut as recommended by the manufacturer.

Add the following to **Subsection 340.5 MEASUREMENT and 340.6 PAYMENT**:

**Sidewalk Ramps, Measurement and Payment**

Sidewalk ramps will be constructed in accordance with Phoenix Standard Details or special details called out on the plans.

Payment for sidewalk ramps will be made under the bid items for "SIDEWALK", "CURB AND GUTTER", and TRUNCATED DOMES FOR SIDEWALK RAMPS, and will include all costs for labor, materials, equipment, forming, placement and finishing for complete sidewalk ramp installation. The cost of any special curb at the back of sidewalk ramps will be measured by the square foot and paid for as "SIDEWALK".

**Concrete Driveway and Sidewalk Slab Connections, Measurement and Payment**

This work will consist of constructing concrete driveway and sidewalk slab connections to match existing at locations shown on the plans or requested by the Engineer. The slab thickness will conform to the applicable driveway or sidewalk detail.

Measurement and payment for this work will be made per square foot complete and in place for the appropriate pay item "CONCRETE DRIVEWAY ENTRANCE" or "CONCRETE SIDEWALK".

**Mountable Curb and Gutter, Measurement and Payment**

Mountable curb and gutter will be constructed in accordance with MAG Detail 220-2, Type E, where shown on the plans.

Measurement will be made per linear foot complete in place, and payment will be made under the bid item for “COMBINED CONCRETE CURB AND GUTTER, STD. DETAIL 220, TYPE ‘A’, H=6”.

**345 ADJUSTING FRAMES, COVERS, VALVE BOXES, AND WATER METER BOXES**

Revise **Subsection 345.1 DESCRIPTION**, **Subsection 345.5 MEASUREMENT**, and **Subsection 345.6 PAYMENT** as follows:

Delete **Subsection 345.1 DESCRIPTION** in its entirety, and substitute the following:

Adjustment of manhole frames, covers, clean outs, valve boxes, survey monument boxes (and water meter boxes if located in the pavement) to finish grade will be done AFTER placement of the final surface course pavement.

Any missing manhole frames or covers and water valve or survey monument box hardware (such as lids, for example) will be reported in writing to the Engineer during the initial lowering process to allow arrangements to
be made to obtain replacement hardware. Missing hardware that is properly reported to the Engineer will be supplied to the Contractor by the City of Phoenix or the appropriate private utility company.

Replacement of any missing hardware that was not reported to the Engineer initially as specified, that comes up missing later when these facilities are brought back up to finish grade, will be the full responsibility of the Contractor, at no additional cost to the City.

In addition, all manhole frames and covers, water valve and survey monument boxes or other related hardware removed by the Contractor during the lowering process will be maintained in a secure area, and the Contractor will bear full responsibility for this hardware material. Any hardware lost by the Contractor will be replaced in-kind, at no additional cost to the City.

All areas of existing pavement removed for adjustments that will be subjected to traffic prior to placement of final concrete collar rings will be temporarily filled with hot-mix Type D-1/2 asphalt and roller-compacted flush with the adjacent pavement. There will be no separate measurement or payment for this temporary hot-mix asphalt or placement or subsequent removal, the cost being considered incidental to the cost of the adjustment.

After removal of asphalt pavement in the area of adjustment, and prior to placement of the final concrete collar ring around the frame or valve box (as shown on City of Phoenix Detail P-1391 and MAG Detail 422), the asphalt pavement in proximity of the adjustment will be rolled with a self propelled, steel wheel roller.

The concrete collar ring around the frame or valve box will be circular, and will be a minimum of eight (8) inches thick, placed flush with the adjacent new pavement surface. At a minimum, concrete will be MAG Class 'AA' on all paved streets. All concrete will be obtained from plants approved by the Engineer.

A single No. 4 rebar hoop will be placed in each adjustment collar. The hoop diameter will be such that its placement is centered between the edge of the manhole frame or valve box, and the outside edge of the concrete collar. The depth of the hoop will be such that it is centered in the thickness of the collar. Each concrete ring will be scored radially at quarter-circle points. Score lines will be 1/4-inch wide by 1/2-inch deep. The concrete collar surface will be rough broom-finished. All pavement removed for adjustments will be replaced with concrete.

Traffic will not be allowed on the collars until the concrete has reached a minimum compressive strength of 2500 psi on residential streets, and 3000 psi on collector and major streets. On major streets, the Contractor will use "high-early" cement in the concrete mix, approved by the Engineer, to minimize delay in re-opening the street to traffic.

Prior to commencing work on the adjustments, the Contractor will submit a written adjustment plan and schedule to the Engineer for approval. At the request of the City, the contractor will provide access to all services under construction at no additional cost.

Sewer manhole frames and covers will be matched, kept together, and replaced to their original locations. The Contractor will remove existing asphalt, chip seal, or other materials from all sewer manhole covers and water valve box lids to be adjusted on this project. The Contractor's method for removal will be approved by the Engineer prior to actual work. Cover cleaning will be completed prior to adjustment of frames. Also, all water valve risers will be thoroughly cleaned to fully expose the valve operating nut.

**QUARTER SECTION MAPS FOR WATER AND SEWER LINES**

The Contractor may obtain up to three sets of waterline and sewerline quarter section maps for the streets included in this project after the contract is awarded and issued. To order the maps, the Contractor will bring
an official contract specification book and a list of desired quarter section maps to the Technical Support Services counter on the 8th Floor of City Hall, 200 W. Washington Street. Up to three sets of maps will be provided at no cost to the Contractor. If more than three sets are requested, the Contractor will purchase the additional sets.

WATER VALVE AS-BUILTS

Upon completion of water valve box adjustments, the Contractor will provide one complete accurate and clearly legible set of as-built waterline Quarter Section maps to the Engineer. The Contractor will mark and color code all water valves on the maps as follows:

- **Blue**: All valves shown on the Q.S. map found and adjusted.
- **Yellow**: All valves shown on the Q.S. map but not found in the field.
- **Red**: Any valve not shown on the Q.S. maps but discovered and adjusted. (Draw valve symbol on map at appropriate location and provide offset and location dimensions for valves in this category.)

Delete Subsections 345.5 MEASUREMENT and 345.6 PAYMENT and substitute the following:

### 345.5 MEASUREMENT

Measurement for adjustments will be per each respective item.

### 345.6 PAYMENT

Payment for the appropriate item will be made at the unit price bid for ‘ADJUST EXISTING MANHOLE FRAME AND COVER, STANDARD DETAIL 422; ‘ADJUST EXISTING TYPE ‘A’ WATER VALVE, STANDARD DETAIL P-1391 AND P-1391-1’; ‘ADJUST EXISTING SEWER CLEAN-OUT FRAME & COVER, STANDARD DETAIL P-1270’; ‘ADJUST SURVEY MONUMENT HANDHOLE FRAME AND COVER, STD DET P-1270; or ADJUST EXISTING WATER METER BOX & COVER. Payment will include all labor, materials, and equipment necessary to satisfactorily clean and make complete adjustments.

There will be no separate measurement or payment for adjusting NEW manhole frame & covers, valve boxes, sewer clean-out frame & covers or water meter boxes constructed with the project. Payment for adjusting these new facilities is considered included in the price bid for the appropriate new item.

6. Add the following new Section 346 ADJUSTING NON-CITY UTILITIES as follows:

### 346.1 DESCRIPTION

The utility companies may utilize the Contractor to adjust their frames, covers, and valve boxes for this project.

The Contractor will coordinate with the Engineer and the representatives of the various utilities regarding the adjustment and the inspection requirements of their facilities. The Contractor will be responsible for obtaining and adhering to the specifications and any other special requirements from the utility companies.

### 346.2 MEASUREMENT

Measurement of adjusted private utility features will be on a per each basis.
346.3 PAYMENT

Payment for this work will be made at the unit price bid per each item adjusted to grade, under the proposal item "ADJUST EXISTING UTILITY MANHOLE FRAME AND COVER, MANHOLE OR UTILITY RISER", and will be compensation in full for complete and final adjustment, including any utility inspector costs associated with these adjustments, regardless of the type of manhole or valve. The individual utility companies have the right to accept or reject the Contractor's bid price for their portion of adjustments. If the utility company rejects the Contractor's price, the utility company will adjust their own facilities and the item quantity will be adjusted accordingly.

7. Add the following new Section 362 UNDERGROUND POWER INSTALLATION as follows:

362.1 TRENCHING FOR UNDERGROUND STREET LIGHT CIRCUITS

Materials and construction will be in accordance with the Arizona Public Service Company (APS) "Underground Distribution Construction Standards", MAG, City of Phoenix Standard Specifications and these Special Provisions. The work will consist of the following items:

1. Providing all trenching, bedding, backfilling and compacting for street light circuits.
2. Installing junction boxes and ground rods provided by Arizona Public Service Company (APS).
3. Furnishing and installing 2 1/2-inch conduit(s), sweeps and conduit caps, including the running of a mandrel through the system.
4. Installing APS furnished flat strap in all conduit runs.

The Contractor will be responsible for obtaining the APS Standards from the APS Standards Department (602-371-6383, Barbara McMinn). A copy of these standards is available for perusal at the City of Phoenix Street Transportation Department Utility Coordination Office.

All work will be subject to inspection by Arizona Public Service and City of Phoenix forces. The Contractor will call APS Contracts Section at 602-371-6512 at least five (5) working days prior to starting trench work to meet with the APS Inspector and review inspection requirements.

The APS Liaison Agent is Mr. Bobby Garza {602-371-7989 or 602-361-6840 (mobile).

Trenching will be completed prior to sidewalk construction and ahead of pole installation. The Contractor will backfill and compact the trench in accordance with Section 601. The trench will be per APS plans.

Measurement and Payment

Measurement will be per linear foot, and payment will be at the unit price bid per linear foot for "TRENCHING FOR STREET LIGHT CIRCUIT" and will be compensation, in full, for all labor, equipment and materials necessary for the satisfactory completion of trenching and bedding; furnishing and installing the required number conduit for (streetlighting and service lines) and sweeps; installing APS-provided junction boxes and ground rods; installing APS-provided flat strap in all conduit runs; furnishing and installing sonotubes and related items; and backfilling and compacting in accordance with the Standard Specifications and these Special Provisions.

The Contractor will notify the APS inspector assigned to this project at least two weeks prior to needing the APS crew for pulling conductor wire and energizing the system.
8. Add the following new Section 363 STREET LIGHTING INSTALLATION as follows:

363 STREET LIGHTING INSTALLATION

Description

The Contractor will furnish and install all above-ground street light equipment (poles, luminaire arms, luminaires, photocells, etc.) in accordance with the plans.

The Contractor will submit shop drawings for review and approval by the Engineer and the appropriate Power Company on all street light equipment to be provided by the Contractor.

The Contractor will coordinate street light equipment installation efforts to avoid any damage to other elements of project construction, and will provide a complete, connected system installation ready for the Power Company to pull conductor wires and energize the street light system.

All work will be subject to inspection by the Power Company and City of Phoenix forces. The Contractor will call the Power Company at least five (5) working days prior to starting work to meet with the Power Company Inspector and review inspection requirements.

Measurement and Payment

Measurement will be per each complete street light installed, and payment will be at the unit price bid per each for "FURNISH AND INSTALL STREET LIGHT PER C.O.P. STREET LIGHTING PROCEDURES, STANDARDS AND SPECIFICATIONS MANUAL" and will be compensation in full for all labor, equipment and materials necessary for the satisfactory installation of street light equipment, including furnishing and installing street light poles, luminaire arms, luminaires, photocells, and all other related equipment items in accordance with the plans, Standard Specifications and these Special Provisions.

9. 401 TRAFFIC CONTROL. Add the following to Subsection 401.4 TRAFFIC CONTROL MEASURES:

SEQUENCE OF CONSTRUCTION

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

The project will follow a phasing plan approved by the Engineer. All lanes will be maintained on a paved surface at all times during construction. This may be accomplished by using existing, new, or temporary asphalt pavement. Trenches will be completely backfilled and either paved with temporary asphalt pavement, or covered with metal plating as necessary to comply with this requirement and 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 will prepare and submit to the Engineer, a written phasing plan and work schedule for the project. This plan and work schedule will be submitted to the Engineer at the Preconstruction Conference for review.

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

**TEMPORARY PAVEMENT**

Temporary pavement will be asphalt concrete, Type C-3/4, 2-inches thick. The temporary pavement will be placed as required to maintain traffic and pedestrians on pavement at all times, or as directed by the Engineer.

On this project, it is expected that no more than 2,000 tons of Type C-3/4 temporary asphalt pavement will be required.

There will be no direct measurement or payment for furnishing, installing, maintaining, or removing the first 2,000 tons of temporary asphalt pavement, the cost being considered incidental to the cost of the project. If more than the expected amount of temporary asphalt pavement is required by the Engineer, a fair contract unit price based on actual and recent historic unit bid prices for permanent asphalt pavement will be negotiated and paid to the Contractor.

10. **401 TRAFFIC CONTROL**, add the following to **Subsection 401.5 GENERAL TRAFFIC REGULATION**

**TRAFFIC REGULATIONS**

A. The following will be considered:

   Arterial Streets

   27th Avenue

   Lower Buckeye Road

   Buckeye Road

   Collector Street

   Durango Street

B. All traffic and/or traffic control devices on this project will be provided, maintained and/or controlled as specified in the City of Phoenix Traffic Barricade Manual, 9th Edition and addendums thereof.

C. Permission to restrict City streets, sidewalks and alleys (street closure permits) will be requested as specified in Chapter 2 of the City of Phoenix Traffic Barricade Manual, 9th Edition and addendums thereof.

D. Unless otherwise provided for in the following "Special Traffic Regulations", all traffic on this project will be regulated as specified in Chapter 4 of the City of Phoenix Traffic Barricade Manual, 9th Edition and addendums thereof.

E. No deviation from the "Special Traffic Regulations" will be allowed or implemented unless submitted to the Engineer for review and approval at least 14 days prior to proposed work.

F. Only City of Phoenix certified contractors can set, move or remove temporary traffic control devices (signs, barricades, etc.). This annual certification can be scheduled by calling 602-262-6235.
G. Civil sanctions for temporary traffic control violations apply as follows:

<table>
<thead>
<tr>
<th>Civil Sanction Per Day</th>
<th>Violation Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,500</td>
<td>Creating an eminent risk of death or injury to the public within the public right-of-way</td>
</tr>
<tr>
<td>$1,000</td>
<td>Restricting the right-of-way without proper certification or a right-of-way temporary use permit</td>
</tr>
<tr>
<td>$1,000</td>
<td>Restricting traffic during peak traffic hours as described in the Traffic Barricade Manual without authorization</td>
</tr>
<tr>
<td>$1,000</td>
<td>Failing to correct or cure a violation, as listed in this table, within the time period stated on the warning notice</td>
</tr>
<tr>
<td>$1,000</td>
<td>Restricting traffic at signalized intersections without any work occurring</td>
</tr>
<tr>
<td>$500</td>
<td>Closing a sidewalk improperly or closing a sidewalk without proper certification or closing a sidewalk without a right-of-way temporary use permit</td>
</tr>
<tr>
<td>$500</td>
<td>Violating the restriction limits, times and locations, of the right-of-way temporary use permit</td>
</tr>
<tr>
<td>$500</td>
<td>Missing or improper use of advance warning signs</td>
</tr>
<tr>
<td>$500</td>
<td>Missing or improper use of barricades and channelizing devices</td>
</tr>
<tr>
<td>$250</td>
<td>Leaving advanced warning signs facing traffic after restriction has been removed – per one traffic direction</td>
</tr>
<tr>
<td>$250</td>
<td>Leaving traffic control devices in the right-of-way twenty-four hours after right-of-way temporary use permit expires, unless a request for a permit extension is received by the City prior to the expiration of such permit</td>
</tr>
<tr>
<td>$250</td>
<td>Use of “unacceptable” quality traffic control devices as described in the Traffic Barricade Manual</td>
</tr>
<tr>
<td>$250</td>
<td>Rendering a bus stop inaccessible without relocating it or making other accommodations</td>
</tr>
</tbody>
</table>

H. Parking Meter Fees: To take a parking meter out of service requires a $35 application fee and $10 per meter per day.

I. The City has the authority to remove and store temporary traffic control devices in emergency situations or as a last resort if the barricade owner will not pick them up. The City will assess removal and storage fees accordingly.
11. **TRAFFIC CONTROL.** Add the following to **Subsection 401.5 GENERAL TRAFFIC REGULATION:**

**SPECIAL TRAFFIC REGULATIONS**

For demolition of roadway these street and intersections can be restricted as directed below. Pedestrian Traffic must be maintained at all times on same side of street using approved methods as shown in the Traffic Barricade Manual. Emergency Access must be maintained at all times.

**27th Avenue: Lower Buckeye Road to Buckeye Road**

Maintain 1 lane in each direction at all times on a 24 hour basis, unless otherwise noted within the approved Temporary Right-of-Way Use permit issued to the contractor. In addition, at signalized intersections, all left turns are to be maintained from 6:00am – 8:30pm and 4:00pm – 6:30pm

**27th Avenue and Durango Street Intersection**

Maintain 1 & 1 at all times on Durango street on a 24hrs basis, also maintain all left turns at signalized intersection

**Lower Buckeye Road and Buckeye Road**

Lower Buckeye Road and Buckeye Road can be reduced, when construction requires, during the times indicated below:

Two lanes (one each way) plus left-turn lanes at signalized intersections from 8:30 a.m. to 4:00 p.m. weekdays and during working hours on weekends.

Two lanes (one each way) plus left-turn lanes at signalized intersections from 9:30 p.m. to 6:00 a.m. weeknights, and from 9:30 p.m. Saturday to 6:00 a.m. Monday.

Four lanes (two each way) plus left-turn lanes at signalized intersections from 6:00 a.m. to 8:30 a.m. and from 4:00 p.m. to 7:00 p.m. weekdays.

Four lanes (two each way) plus left-turn lanes at signalized intersections from 8:30 a.m. to 4:00 p.m. and from 7:00 p.m. to 9:30 p.m. weeknights.

All lanes will remain open from 6:00 a.m. to 8:30 a.m., and 4:00 p.m. to 7:00 p.m. weekdays, and from 9:30 p.m. Friday to 9:30 p.m. Saturday.

**Portable Variable Message Boards**

Portable Variable Message Boards (VMB) will be provided on this project at the following locations, 24 hours per day, from at least 14 days prior to any roadway restrictions until all roadway traffic restrictions are removed:

- Northbound 27th Avenue, approximately 1,320 feet south of Lower Buckeye Road intersection;
- Southbound 27th Avenue, approximately 1,320 feet north of Lower Buckeye Road intersection;
- Westbound Lower Buckeye Road, approximately 1,320 feet east of 27th Avenue;
- Eastbound Lower Buckeye Road, approximately 1,320 feet west of 27th Avenue

Police Officer Requirements

The Contractor will provide one off-duty police officer, as defined in the City of Phoenix Traffic Barricade Manual, latest edition, at signalized intersections affected from 6:00 a.m. to 7:00 p.m. weekdays, and during working hours, nights and weekends when traffic is restricted (as described in the City of Phoenix Traffic Barricade Manual, latest edition).

When construction activities do not restrict traffic through the intersections, police officer hours may be reduced or suspended at the direction of the Engineer.

Signalized Intersection Requirements

The Contractor will notify the Engineer and the City Traffic Signal Shop (262-6021) at least 72 hours prior to the start of any construction in the vicinity of a signalized intersection where traffic signals may be affected.

The Contractor will provide the Engineer and the Traffic Signal Shop a written schedule indicating days, times and specific locations where traffic signals will be interrupted or modified. When work has been completed, the Contractor will immediately notify the Traffic Signal Shop.

Local Access Requirements

The Contractor will maintain local access to all side streets, access roads driveways, alleys, and parking lots at all times and will notify residents 72 hours in advance of any restrictions which will affect their access. The Contractor will restore the access as soon as possible. If the primary access cannot be restored in a timely manner, the Contractor will provide an alternative which will be pre-determined with the residents prior to imposing any restrictions. Any local street restrictions imposed will be such that local area traffic circulation is maintained.

Business Access Requirements

Access will be maintained to adjacent businesses at all times during their hours of operation. Access may be maintained by such measures as constructing driveways in half sections, or by providing bridging over new concrete. Properties with multiple driveway access will not have more than one driveway access restricted at any given time. While the one driveway is restricted, access to the other adjacent driveways will be maintained and unrestricted. Each individual driveway access restriction will be no more than fourteen (14) calendar days. Any business restrictions will be coordinated with the affected business in writing at least fourteen (14) days prior to imposing restrictions.

Frontage Road Access Requirements

Local access will be maintained at all times on frontage roads. Frontage roads will not be used for through traffic, equipment parking, material storage, or spoil stockpile area. Frontage road closures will follow the same special provisions as described in "Local Access Requirements".

School Access Requirements

The Contractor will provide clean and safe school zones, crosswalks, and walkways for students attending
nearby schools during all hours of school use.

This may require backfilling trenches, temporary pavement, shoring, plating, or pedestrian bridges with handrails across open trenches.

In addition to school zones and crosswalks, the Contractor will maintain accessibility to all school bus routes during all hours of school use. The Contractor will notify the school principal(s) and the school Transportation Director at least fourteen (14) days prior to any restrictions and will restore access as soon as possible.

**Fire Station and Police Station Access Requirements**

The Contractor will maintain paved emergency vehicle access to and from all fire stations and police stations at all times. The Contractor will coordinate with the Fire Station and/or Police Station Commander at least fourteen (14) calendar days prior to any restrictions, and again at least 72 hours prior to any restrictions, and will restore full access as soon as possible. **No full closure of 27th Avenue access into fire station shall be permitted.** Contractor must coordinate with Facility Manager, Silvio Vaninetti (602) 531-5524 Silvio.vaninettir@phoenix.gov, and provide weekly construction schedule.

**Canal Access Road Requirements**

RID Canal access and maintenance roads will remain open at all times.

**Coordination With Other Agency Projects**

The Contractor will coordinate and schedule work to minimize disruption or conflicts with the following other Agency projects:

City of Phoenix Water Main Replacement Project WS85509021- Buckeye Road to Durango Street & 27th Avenue to 31st Avenue
Contractor: Talis Construction Corporations
Contact: Matthew Woodland, matthew.woodland@phoenix.gov

Maricopa County Sheriff’s Office- New Jail – 27th Avenue and Lower Buckeye Road

Public Works Department for restriction into 27th Avenue Landfill.

Any work that may affect this project will be coordinated with the appropriate Agency contact at least fourteen (14) days in advance.

**Sanitation Pick-up**

The Contractor will provide sanitation pick-up for affected residents by relocating trash containers, or by providing alternative measures acceptable to the Public Works Department, Sanitation Division (602) 534-5144.

**Special Events**

There are special events scheduled to take place during the construction of this project. The Contractor will coordinate these events with the construction schedule. No additional compensation for delays associated with special events will be considered.
Special Sign Requirements

The Contractor will provide, install and maintain advance notification; public informational; and directional access signs (for businesses, churches, hospitals, schools, etc.) that may be required by the Engineer. These signs may include, but are not limited to portable changeable message signs, radar/speed sensing trailers and other applicable Intelligent Transportation System type devices. The cost will be included in the bid item for Traffic Control Devices.

Bus Stops

The Contractor will maintain all existing bus stop locations on this project in a safe manner, or provide alternate bus stop locations and related directional signage as required by the Engineer. Not fulfilling this requirement can lead to civil sanctions.

Flagging of Traffic

No flagging of traffic will be permitted during the peak traffic hours of 6:00 a.m. to 8:30 a.m. and 4:00 p.m. to 7:00 p.m. weekdays. If construction requires, intermittent flagging will be allowed from 8:30 a.m. to 4:00 p.m. if approved by the Engineer, to facilitate access for heavy construction equipment.

Traffic Control Plan

The Contractor will 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 will be professionally drawn on a 24" x 36" reproducible medium, and will be submitted to the Engineer at the Pre-Construction meeting or before. The Contractor will allow the Engineer fourteen (14) calendar days for review and approval of an acceptable plan.

Temporary Traffic Control Zone and Safety

At the Pre-Construction conference, the Contractor will designate an employee, other than the Project Superintendent, who is knowledgeable in the principles and methods of proper traffic control and safety. This employee will be available on the project site during all periods of construction to coordinate and maintain safe, acceptable and effective temporary barricading whenever construction affects traffic. This person will be authorized to receive and fulfill instructions from the Engineer and will supervise and direct traffic control. Instructions and information given by the Engineer to this person will be considered as having been given to the Contractor.

Failure to maintain temporary traffic control devices in accordance with the City of Phoenix Traffic Barricade Manual, latest edition, the approved Traffic Control Plan, and directives by the Engineer will result in suspension of work and/or civil sanctions until deficiencies are corrected to the satisfaction of the Engineer.

Safety Fencing Requirement for Trenches and Excavations

The Contractor will provide safety construction fencing around all open trenches and excavations during all non-working hours.

The Contractor will provide for the safety and welfare of the general public by adequately fencing all excavations and trenches that are permitted by the Engineer to remain open when construction is not in progress.
Fencing will be securely anchored to approved steel posts located six (6) feet on centers, having a minimum height of six (6) feet, and will consist of wire mesh fabric of sufficient weight and rigidity to adequately span a maximum supporting post separation of six (6) feet.

The fencing, when installed about the periphery of excavations and trenches, will form an effective barrier against intrusion by the general public into areas of construction. Fencing will not create sight distance restrictions or visual obstructions. At all times when construction is not in progress, the Contractor will be responsible for maintaining the fencing in good repair, and upon notification by the Engineer, will take immediate action to rectify any deficiency. Prior to the start of any excavating or trenching required for the execution of the proposed work, the Contractor will submit to the Engineer for approval, detailed plans showing types of materials and methods of fabrication for the protective fencing.

There will be no separate measurement or payment for furnishing, installing, or maintaining protective fencing. The cost will be considered incidental to the cost of the pipe and/or structures.

**Final Signing and Striping of Roadway**

The Contractor, through the City project inspector, shall notify the Street Transportation Department, Traffic Services Division (602-262-6456), at least thirty (30) days prior to desired completion of final roadway signing and lane striping. This will allow adequate time for City crews to schedule and complete the task on time.

12. **401 TRAFFIC CONTROL.** Add the following to Subsection 401.10 PAYMENT:

**ALLOWANCE FOR UNIFORMED, OFF-DUTY LAW ENFORCEMENT OFFICER**

This project includes a lump sum “ALLOWANCE FOR UNIFORMED, OFF-DUTY LAW ENFORCEMENT OFFICER. The amount of this allowance is determined by the Engineer, and is not subject to individual bid pricing. All bidders will incorporate the amount pre-entered in the bid proposal and will reflect the same in the total amount bid for this project.

Payment for uniformed, off-duty law enforcement officers will be made from this allowance based on approved invoiced cost plus taxes, and a maximum 10 percent markup for overhead and profit.

**TRAFFIC CONTROL**

Payment for traffic control will be on a lump sum basis for Traffic Control Devices.

13. Add the following new Section 402 ADDITIONAL CONSTRUCTION REQUIREMENTS as follows:

402.1 **FIELD DOCUMENTATION**

The Contractor will document existing conditions within the project area prior to construction. Documentation will be video tape. The video tape will not be made from a moving vehicle. One copy of the video tape will be furnished to the City prior to the start of construction. The cost of the video taping will be considered incidental to the cost of the project. No separate measurement or payment will be made for this item.

402.2 **CONTRACTOR COMMUNICATION INFORMATION**
The Contractor will provide a pager and mobile phone to his on-site Project Superintendent to ensure that the Engineer can reach the Contractor’s Superintendent. This pager and mobile phone must be accessible by local land-line telephone service. The Superintendent’s pager and mobile phone will remain in service for the duration of the project, and these phone numbers will be included on the Contractor’s list of emergency phone numbers submitted at the pre-construction conference.

402.3 TRENCH PLATING

In paved areas where vehicles will be driving over trench plating, the plates will be set to match flush with existing pavement on all sides. Setting plates on top of the pavement surface and installing temporary asphalt ramps around them will not be allowed.

402.4 TRENCHING IN RIGHT OF WAY

The Contractor will not be allowed to stockpile trench material or store any equipment other than the mainline track hoe within the right-of-way of 27th Avenue from Lower Buckeye Road to Buckeye Road. The Contractor will secure temporary 6’ chain link fence around the track hoe during non-working hours.

402.5 MAXIMUM OPEN TRENCH

No more than 330 linear feet of open trench will be allowed on 27th Avenue from Lower Buckeye Road to Buckeye Road. Trenches across driveways will be plated to maintain access. The cost of these plates will be considered incidental to the project.

402.6 CAST-IN-PLACE PIPE RESTRICTION

Cast-in-place pipe will not be allowed as an alternate in 27th Avenue from Lower Buckeye Road to Buckeye Road.

402.7 POWER BROOM

The Contractor may be instructed by the Engineer to provide additional pavement cleaning (in parking lots, or other locations) above and beyond the normal expected cleanup and dust control required by MAG Section 104.1.3. If requested by the Engineer, the Contractor will clean the requested areas with a power pick-up broom.

Use of the power pick-up broom in the special requested areas only will be measured and paid for on an hourly basis under the bid item, ‘POWER BROOM’. The number of hours listed in the bid proposal is only an estimate. Actual hours requested for this project may vary.

402.9 PUBLIC INFORMATION SERVICES

The City of Phoenix will provide a public information specialist for the community relations program on this project.

The Contractor will cooperate with the City’s public information specialist firm in the preparation of newsletters, advanced notification for service disruptions, answering questions from the public, etc. He will also provide schedule update information to the specialist.

The Contractor will provide representatives as needed for all meetings with the public throughout the contract period.
The City will pay public information service costs associated with approved contract time extensions; however, if the Engineer determines that delays were caused by the Contractor, the additional costs for public information services will be deducted from the Contractor's final pay request.

402.11 POLLUTION AWARENESS MARKERS

Pollution Awareness Markers (PAM's) will be installed by the Contractor for all new catch basins and for each existing catch basin within the project limits that does not have a PAM. The PAM's will be supplied to the Contractor by the City. PAM's will be installed at the location identified by the Engineer. For existing catch basins, flat PAM's will be supplied, and the contractor will clean the surface with a wire brush, apply appropriate adhesive to the back of the marker, and apply the marker to the clean surface. For new catch basins, PAM's with feet will be supplied, and the Contractor will install them as the catch basin is cast.

14. Add the following new Section 403 SPECIAL TRAFFIC SIGNALS AND STREET LIGHTING INFORMATION as follows:

403.1 TYPE “SM” AND “SR” SIGNAL POLES AND MAST ARMS

The Contractor is hereby notified that there may be a long lead time required for manufacturing and shipping the Type "SM" and "SR" signal pole foundation cage, poles and signal and luminaire mast arms. The Contractor will, therefore, order these items as early as possible. In the event there is a delay in delivery, the Contractor will install a temporary signal. The signal will be a box span with two (2) 12-inch signal heads per direction with pedestrian heads in all four (4) directions. The Contractor will coordinate the location and size of the wood poles, heads, etc., with the Street Transportation Department, Traffic Signal Systems Supervisor at 262-4690.

There will be no separate measurement or payment for temporary signals. The cost being considered incidental to the cost of contract items.

403.4 STREET LIGHTING

It is the intent of the City of Phoenix to maintain a minimum of one (1) side lighting at all times during construction. The Contractor will coordinate with Arizona Public Service Co. and the Engineer to accomplish this task.

15. Add the following new Section 434 ADDITIONAL LANDSCAPING REQUIREMENTS as follows:

434.3 TRIMMING EXISTING TREES AND/OR SHRUBS IN PLACE

Where there are existing trees to remain in place, the Contractor is to perform any trimming operation required to maintain pedestrian clearance to a height of 7' and to maintain sight visibility. Trimming which involves removal of branches over 3” in diameter or removal of branches which will alter the structure of the trees will be done by a person trained and Certified in the Practice of Arboriculture. The arborist will present certification papers to the Engineer and Landscape Architect for approval upon request. If the tree(s) become damaged or disfigured as a result of the trimming, the Engineer and Landscape Architect may require that the tree(s) be removed and replaced in size and kind by the Contractor. Removal and replacement will be done at the Contractor’s expense.

Trimming existing trees and shrubs in place includes trimming of branches or foliage which overhang existing
walls or fences where the branches create a problem for pedestrian clearance or for order. Trimming of existing trees will be done according to plans as noted and as directed by the Engineer and Landscape Architect.

There will be no separate measurement or payment for trimming existing trees in place. The cost of the work will be considered incidental to the cost of the project.

434.4 PRUNING ROOTS OF EXISTING TREES

If construction impacts the roots, trunk or branches of existing trees that are designated to remain in place, the Contractor will take all necessary precautions to ensure the survival and protection of the tree. The Contractor will hire a Certified Arborist to investigate the areas surrounding existing trees to be saved in place, and locate existing roots. Existing roots will be excavated by hand, and hand-pruned as necessary to where the root is healthy. The Arborist will also make necessary recommendations for care of the tree(s) with respect to root feeding, fertilizing, or any other items required to ensure survival.

The Arborist will present certification papers for approval by the Engineer and Landscape Architect upon request.

There will be no separate measurement or payment for root pruning. The cost will be considered incidental to the cost of the project.

434.5 PROVIDE PROTECTION FOR EXISTING TREES

The Contractor will be responsible for protecting existing trees to remain in place as tagged in the field and/or as noted on the plans. The Contractor will provide fencing around all trees and plants which are to remain in place that could be damaged by construction activity or equipment. A minimum area will be established around each plant based on its trunk caliper size. The minimum area will be one (1) foot of radius for each inch of caliper. For example, if a tree has a 6" caliper, there will be a minimum 6' radius area around the tree that will be considered a protected zone, and a fence will be placed at that location. The fencing will provide protection to the trunks and limbs from damage that could be caused by construction activity or equipment.

Any trimming that is necessary to prevent construction damage to existing trees will be pre-approved by the Landscape Architect. If the roots of existing trees could be affected in any way by construction they will be hand excavated and trimmed as described in the Special Provision, "PRUNING ROOTS OF EXISTING TREES". Root pruning will also be pre-approved by the Landscape Architect.

The Contractor will be responsible for all costs associated with protection of existing trees in place. If any damage occurs to trees or other plants to remain that, in the opinion of the Engineer and Landscape Architect, destroys, aesthetically disfigures, or threatens the plant's future survival, the Contractor will be responsible for replacing the tree in kind. Replacement trees will be the same size as the damaged tree. Prior to selection of any replacement tree, the Contractor will obtain approval of the size, type and purchase source from the Engineer and Landscape Architect.

There will be no separate measurement or payment for providing protection for existing trees and plants in place. The cost will be considered incidental to the cost of the project.

16. Add the following to **MAG Subsection 505.12 PAYMENT:**

**CATCH BASINS**
Storm drain catch basins will be paid for at the unit price bid for each type of catch basin, as represented by the respective bid item, regardless of dimensional or other differences occurring within a particular type. The unit price to be paid under these items will be compensation in full for furnishing and placing catch basin structures as shown on the plans and as specified, including, when applicable, all removal and replacement of existing curb, gutter and sidewalk, concrete, reinforcing steel, forming, vibrating, finishing, curing, access opening frame and cover, embedded angles, grating, anchor bolts, structural excavation, backfill, compaction, pavement replacement and any necessary modifications of catch basin structures during construction. Where shown on the plans, the Contractor will install 3-inch diameter standard strength iron pipe through the catch basin. This pipe will project a minimum of 6-inches past the outside wall.

29. **601 TRENCH EXCAVATION, BACKFILLING AND COMPACTION**, Add the following to Subsection 601.2.6 Grading and Stockpiling after the first paragraph:

During excavation, material suitable for backfilling will be piled in an orderly manner, a sufficient distance back from the edges of trenches, to avoid overloading and to prevent slides or cave-ins. Material unsuitable for backfilling, or excess material, will be hauled from the job site and disposed of by the Contractor.

30. **601 TRENCH EXCAVATION, BACKFILLING AND COMPACTION**, Add the following to Subsection 601.2.7 Shoring and Sheeting:

The Contractor will do such trench bracing, sheathing or shoring necessary to perform and protect the excavation as required for safety and conformance to governing laws. The bracing, sheathing or shoring will not be removed in one operation, but will be done in successive stages as determined by the Engineer to prevent overloading of the pipe during backfilling operations. The cost of the bracing, sheathing or shoring and the removal of same will be included in the unit price for the pipe.

31. **601 TRENCH EXCAVATION, BACKFILLING AND COMPACTION**, Delete this subsection and replace with the following Subsection 601.2.8 Open Trench:

Except where otherwise noted in the special provisions, or approved in writing by the Engineer, the maximum length of open trench, where the construction is in any stage of completion (excavation, pipe laying or backfilling), will not exceed the limits shown on Section 402.4, in the aggregate, at any one location.

Any excavated area will be considered open trench until all ABC for pavement replacement has been placed and compacted. With the approval of the Engineer, pipe laying may be carried on at more than one separate location, the restrictions on open trench applying to each location. Trenches across streets will be completely backfilled as soon as possible after pipe laying.

Substantial steel plates with adequate trench bracing will be used to bridge across trenches at street crossings where trench backfill and temporary patches have not been completed during regular work hours. Safe and convenient passage for pedestrians will be provided. The Engineer may designate a passage to be provided at any point he deems necessary.

Where a trenching operation crosses under existing 12 inch or smaller ACP waterlines (excluding service lines) and four feet or more of the existing ACP pipe is exposed, the Water Services Department - Water Distribution Division will isolate the exposed waterline by either cutting in any necessary valves or by the use of existing valves. After the exposed waterline has been isolated, the Contractor shall remove that part of the exposed waterline to the limits shown in MAG Standard Detail 403-3 at no additional cost. The waterline shall then be replaced by the Contractor (during the trench backfilling operation) with the same size, Class 350, ductile iron pipe as shown in MAG Standard Detail 403-3. The removal and replacement section shall extend
at least five feet beyond the trenching operation's trench wall and into undisturbed ground. The Contractor shall request a shut-down, at least one week in advance, from Water Distribution (262-4711 or 4712). City forces will perform the shutdown and/or valve cut-in. There will be no charges to the Contractor for this work.

If there is an unanticipated conflict at the crossing which can be resolved with "offset pipe joints", the Water Services Department will supply the offset joints to the Contractor at no cost. Offset pipe joints will be picked up by the Contractor at the City's Water Stores Warehouse at 2640 South 22nd Avenue. Requests to pick up such material must be conveyed to the Water Services Department at least 24 hours in advance by the City Inspector. The Contractor shall install the offset joints at no additional cost.

32. **601 TRENCH EXCAVATION, BACKFILLING AND COMPACTION.** Add the following new **Subsection 601.2.9 Pavement and Concrete Cutting and Removal**:

**601.2.9 Pavement and Concrete Cutting and Removal:** Where trenches lie within the Portland cement concrete section of streets, alleys, driveways or sidewalks, etc., such concrete will be sawcut to neat, vertical, true lines in such a manner that the adjoining surface will not be damaged. The minimum depth of cut will be 1 ½ inches or ¼ of the thickness, whichever is greater.

Asphalt pavement will be clean-cut with approved equipment and by approved methods in accordance with the requirements of Section 336.

No ripping or rooting will be permitted outside limits of cuts. Surfacing materials removed will be hauled from the job site immediately, and will not be permitted in the backfill.

33. **601 TRENCH EXCAVATION, BACKFILLING AND COMPACTION.** Add the following to **Subsection 601.4.3 Bedding for Storm Sewers Maintained by the City of Phoenix**:

All Controlled Low Strength Material (CLSM) will be provided by a commercial-source. No on-site mixing or addition of cement to aggregate base course slurry in transit mixers will be allowed.

34. **601 TRENCH EXCAVATION, BACKFILLING AND COMPACTION.** Add the following to **Subsection 601.4.4 Backfill**:

**BACKFILL TYPE REQUIREMENTS FOR PIPE TRENCHES**

Type "B" backfill, as shown on City of Phoenix Detail P1200, will be used for all mainline pipe installations across major, collector, or other signalized intersections. At a minimum, the extent of the Type "B" backfill will be from curb-return-to-curb-return through the intersection, unless noted otherwise on the plans or in the special provisions. Type "B" backfill will also be used for all lateral pipe connections in ALL streets. Type "A-Modified" backfill (suitable native material as specified in City of Phoenix Supplement to MAG Specification Section 601.3.2, except that no piece larger than 3 inches will be allowed), as shown on City of Phoenix Detail P1200, may be used at all other locations, from the top of bedding to the specified pavement subgrade level, unless noted otherwise on the plans or in the special provisions. There is no separate measurement or payment for pipe backfill. The cost is considered included in the bid price for furnishing and installing the pipe. The pavement replacement section will be as specified on the plans or in the special provisions, and will be paid for by the square yard or by the ton, whichever is indicated in the special provisions and on the bid proposal.

35. **601 TRENCH EXCAVATION, BACKFILLING AND COMPACTION.** Add the following new **Subsection**
601.4.5 Cutting Newly Placed Pavement for Pipe Installation:

In the event temporary or base course pavement must be cut in order to install pipe, the cost of sawcutting, removing and replacing the asphalt will be considered incidental to the cost of the pipe.

36. 601 TRENCH EXCAVATION, BACKFILLING AND COMPACTION. Add the following new Subsection 601.6 PROTECTION OF EXISTING UTILITIES:

601.6.1 Utilities: Unless otherwise shown on the plans or stated in the specifications, all utilities, underground or overhead, will be maintained in continuous service throughout the entire contract period. The Contractor will be responsible and liable for any damages to or interruption of service caused by the construction.

If the Contractor desires to simplify his operation by temporarily or permanently relocating or shutting down any utility or appurtenance, he will make the necessary arrangements and agreements with the owner and will be completely responsible for all costs concerned with the relocation or shutdown and reconstruction. All property will be reconstructed in its original or new location as soon as possible and to a condition at least as good as its previous condition. This cycle of relocation or shutdown and reconstruction will be subject to inspection and approval by both the Engineer and the owner of the utility.

The Contractor will be entirely responsible for safeguarding and maintaining all conflicting utilities that are shown on the plans (Sections 107 and 105 apply). This includes overhead wires and cables and their supporting poles whether they are inside or outside of the open trench. If, in the course of work, a conflicting utility line that was not shown on the plans is discovered, the Contracting Agency will either negotiate with the owner for relocation, relocate the utility, change the alignment and grade of the trench or as a last resort, declare the conflict as “extra work” to be accomplished by the Contractor in accordance with Section 104.

601.6.2 Irrigation Ditches, Pipes and Structures: The Contractor will contact the owners of all irrigation facilities, and make arrangements for necessary construction clearances and/or dry-up periods.

All irrigation ditches, dikes, headgates, pipe, valves, checks, etc., damaged or removed by the Contractor, will be restored to their original condition or better, by the Contractor at no additional cost to the Contracting Agency.

601.6.3 Building, Foundations and Structures: Where trenches are located adjacent to building, foundations and structures, the Contractor will take all necessary precaution against damage to them. The Contractor will be liable for any damage caused by the construction.

Except where authorized in the special provisions or in writing by the Engineer, water settling of backfill material in trenches adjacent to structures will not be permitted.

There will be no separate measurement or payment for this work. The Contractor will include all associated costs in the unit bid price for the pipe installation.

601.6.4 Permanent Pipe Support Options and Encasements: Where 18-inch or larger mainline pipes (or other pipes as directed by the Engineer) cross under existing sanitary sewerlines (vitrified clay pipe 12-inches or smaller), the Contractor will permanently support the sanitary sewerline per MAG Detail 403-1, 403-2 or 403-3 at no additional cost. If the ductile iron pipe replacement option is used (403-3), and the required crossing length is more than one joint of pipe, concrete pipe supports as detailed in MAG Details 403-1 or 403-2 will be used in addition to the ductile iron pipe. For a single joint of standard 20-foot-long ductile iron pipe replacement, the maximum trench width allowed at the point of the sewer line crossing will be 9-feet, unless
otherwise directed by the Engineer. Mechanical or restrained joints will be required on all multiple-joint ductile iron pipe crossings.

Where waterlines, reclaimed waterlines or sanitary sewer lines (new or existing) cross over or under each other, pipeline encasements will be provided as necessary in accordance with MAG Detail 404.

When the ductile iron pipe replacement option is used for the sewer lines, the new pipe will be properly blocked at each end with one or more bricks resting on undisturbed or 95% compacted soil haunches outside the trench walls to prevent differential settlement.

The interior of all ductile iron pipe used for sewer lines will be coated per the specification, "LINING FOR DUCTILE IRON PIPE USED FOR SEWER LINES" in these Special Provisions.

Upon completion of a sanitary sewer line support or encasement, including backfilling and compacting, but prior to permanent pavement replacement, the Contractor will request, through the Engineer, a televising of the line by the City Water Services Department to ensure proper line and grade of the sanitary sewer pipe. If the pipe is out of alignment, it will be the Contractor's responsibility to remedy the situation at no cost to the City.

If the sanitary sewer line is less than 8-inches in diameter, the Contractor will provide the necessary equipment and televising the line to determine proper pipe alignment. The Engineer will be present during the televising, and a video tape of the televising will be made for the City Water Services Department for confirmation that the pipe is properly aligned. The cost of televising the line and preparing the video tape will be included in the bid price paid for the pipe support or encasement.

Permanent pipe supports will be paid for at the unit price bid for each unit installed regardless of type. Encasements will be paid for at the unit price bid per linear foot installed regardless of type. The unit price bid for either item of work will be compensation in full for providing complete and satisfactory permanent pipe supports or encasements, including ductile iron pipe and fittings, concrete, reinforcing steel, forming, vibrating, any required earthwork, televising and videotaping, and any other incidental items necessary.

601.6.5 Electronic, Telephonic, Telegraphic, Electrical, Oil and Gas Lines: During trenching operations, underground facilities such as electronic, telephonic, telegraphic, electrical, oil and gas lines will be supported and protected by the Contractor. Support for plastic pipes will be continuous along the bottom of the pipe. Support for metal pipe and electrical conduit may be continuous or nylon webbing may be used for suspension at no greater than ten-foot intervals.

The Contractor will avoid damaging any pipes, conduits or duct bank facilities during excavation, foundation and bedding placement, and trench backfilling and compaction.

601.6.6 Measurement and Payment:

There will be no measurement or payment for this work. The Contractor will include all associated costs in the unit bid price for the pipe installation.

38. 601 TRENCH EXCAVATION, BACKFILLING AND COMPACTION. Add the following new Subsection

601.7 CONTRACTOR CERTIFICATION OF INSTALLATION PROCEDURES:

601.7 CONTRACTOR CERTIFICATION OF INSTALLATION PROCEDURES
When requested in the Special Provisions or by the Engineer prior to installation, the Contractor will furnish to
the Contracting Agency an affidavit (certification) from the pipe manufacturer (or his designee) stating that the
Contractor is familiar with the manufacturer's suggested installation methods and procedures and the
installation complies with those procedures and is consistent with MAG requirements.

Also, when required in the Special Provisions or requested by the Engineer, the pipe manufacturer or his
designee will review the Contractor's methods and procedures for pipe installation in the field. The Contractor
will make any adjustments in the installation as recommended by the manufacturer or his representative. If
necessary, the Contractor may be required to reinstall or provide corrections to pipe installed prior to the field
review at no cost to the Agency. Once the manufacturer or his representative has reviewed the Contractor's
installation methods and the Contractor has adjusted his installation methods as recommended by the same,
the manufacturer or his representative will furnish to the Contracting Agency an affidavit (certification) that the
Contractor's installation methods and procedures, at the time of the review, complied with the manufacturer's
installation practices. The affidavit must provide the name of the manufacturer's representative witnessing the
pipe installation.

39. 610 WATERLINE CONSTRUCTION. Add the following to Subsection 610.4 CONSTRUCTION METHODS:
WATER MAIN REALIGNMENT (CONTINGENT ITEM)

In the event of unavoidable conflict between proposed construction and an existing water main, the Contractor
will vertically and/or horizontally realign the water main in accordance with COP Detail P1370 and Section
610. No concrete thrust blocks will be allowed. All pipe will be ductile iron with restrained joints.

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

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

Materials for water main realignment will be ductile iron in accordance with COP Supplement to MAG
Subsection 750.2 DUCTILE IRON WATER PIPE.

Measurement and Payment

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 items
"WATERLINE REALIGNMENT, 6" AND 8", CONTINGENT ITEM"; and "WATERLINE REALIGNMENT, 10"
AND 12", CONTINGENT ITEM".

40. 610 WATER LINE CONSTRUCTION. Add the following to Subsection 610.7 VALVES:
LOCATING, CLEANING AND INSTALLING WATER VALVE BOX DEBRIS CAP WITH LOCATOR COIL

The Contractor will furnish and install a debris cap with a locator coil in all new water valve boxes installed; in
all existing water valve boxes adjusted to grade; and in all other existing water valve boxes within the project
limit right-of-way, even if not called out for adjustment to grade. The debris cap will be in accordance with City
of Phoenix Supplement to MAG Detail P-1165 and will include a locator coil.
Prior to installation of the debris cap, valve risers will be thoroughly cleaned, fully exposing the operating nut. In addition, the Contractor will attempt to locate all unexposed water valves within the project limits, as indicated by City of Phoenix Water Services Department water valve Quarter-Section maps. In attempting to locate unexposed valve boxes, the Contractor will excavate a minimum depth of eighteen (18) inches from the surface. Unexposed valve boxes found will be brought up to finish grade; cleaned to fully expose the operating nut; and a debris cap with locator coil will be installed.

Measurement for debris caps furnished and installed in water valve boxes (adjusted to grade or not) will be per each unit, including locating and cleaning. The Contractor will obtain the appropriate Water Services Department water valve Quarter-Section maps at Phoenix City Hall, 200 W. Washington Street, 8th Floor, at no additional cost to the City, and will make a diligent effort to locate all existing unexposed water valves shown on these maps. The Contractor will clearly mark all unexposed water valve boxes actually located on record plans and copies of the water valve Quarter-Section maps showing specific found location information, and these plans will be provided to the Engineer. The cost for the Contractor to extend any risers on found unexposed valve boxes to bring them up to finish grade will also be considered incidental.

Payment for this work in paved areas will be made under the bid item, “DEBRIS CAP, INCLUDING LOCATOR COIL, INSTALL.”

Payment for this work in unpaved areas will be made under the bid item, “DEBRIS CAP, INCLUDING LOCATOR COIL, NON-PAVED AREAS, INSTALL.” There will be no separate measurement or payment for any labor, materials or equipment used in attempting to locate valves shown on the Quarter-Section maps that are not actually found. Valve locating attempts that do not produce any resulting “finds” will be considered incidental.

41. 610 WATER LINE CONSTRUCTION. Add the following new Subsections 610.9.1 Fire Hydrant Relocation; 610.9.2 New Fire Hydrant Installation; and 610.9.3 Fire Hydrant: Remove, Salvage and Deliver to City of Phoenix:

610.9.1 Fire Hydrant Relocation:

Fire hydrant relocations will be paid for at the unit price bid per each under the bid item, “RELOCATE FIRE HYDRANT”. The unit price bid will be full compensation for removing and reinstalling the fire hydrants at the new locations shown on the plans and in accordance with new construction standards. All pipes, valves and fittings necessary to accomplish the relocation are to be included in the unit price. Prior to removing the fire hydrant from service and prior to reactivating the fire hydrant, the Contractor will notify the Engineer. The Contractor will minimize the time the fire hydrant is out of service but in no event will the out-of-service time exceed 24 hours. If in the opinion of the Engineer, the fire hydrant should be replaced, Water Distribution Division will provide a replacement fire hydrant at no cost to the Contractor. It will be the Contractor's responsibility to pick up the replacement hydrant and to either return the old hydrants to the Water Distribution Division Yard, or dispose of them, whichever is directed by the Engineer. In order to obtain new fire hydrant replacements, the Contractor must first obtain a written order (Field Directive) from the Engineer. Then, at no additional cost to the City, the Contractor will pick up the specified number of units at the Water Distribution Warehouse located at 2500 S. 22nd Avenue.

610.9.2 New Fire Hydrant Installation:

New fire hydrant installations will be paid for at the unit price bid per each under the bid item, “FIRE HYDRANT FURNISHED BY THE CITY OF PHOENIX, INSTALL”. The unit price bid will be full compensation for installing the new fire hydrants at the locations shown on the plans and in accordance with construction standards. All pipes and valves necessary to accomplish the installation will be measured and paid for
separately under their respective bid line items. All fittings necessary to accomplish the installation of the new fire hydrant will be paid for separately under the bid item, “ALLOWANCE FOR EXCESS DUCTILE IRON FITTINGS, FURNISH AND INSTALL”. Payment for these fittings will be made from this allowance based on approved invoiced cost of the materials only, plus bonds, insurance and taxes, and a maximum 15 percent markup for overhead and profit.

Prior to removing any existing fire hydrant from service and prior to activating the new fire hydrant, the Contractor will notify the Engineer. Water Distribution Division will provide new fire hydrants at no cost to the Contractor. It will be the Contractor's responsibility to pick up the new hydrants and to either return old hydrants to the Water Distribution Division Yard, or dispose of them, whichever is directed by the Engineer. In order to obtain new fire hydrant, the Contractor must first obtain a written order (Field Directive) from the Engineer. Then, at no additional cost to the City, the Contractor will pick up the specified number of units at the Water Distribution Warehouse located at 2500 S. 22nd Avenue.

**610.9.3 Fire Hydrant - Remove, Salvage and Deliver to City of Phoenix:**

All existing fire hydrants to be abandoned will be removed. The void created will be backfilled with ABC and compacted. The surface will be replaced to match the existing surrounding surface—asphalt, concrete, gravel, etc.

Fire hydrants served from a water main staying in service will require either a tapping sleeve and valve “cut-out” or tee “cut-out” and a new piece of pipe “cut-in” in accordance with City of Phoenix Standard Detail P1344.

Fire hydrants served from a water main not staying in service will require the fire hydrant water main lateral to be cut and plugged near the fire hydrant in accordance with City of Phoenix Standard Detail P1343.

It will be the Contractor's responsibility to either return the old fire hydrants to Water Distribution Division Yard, or dispose of them, whichever is directed by the Engineer.

Measurement and payment for this work will be under the bid item “FIRE HYDRANT: SALVAGE AND DELIVER TO THE CITY OF PHOENIX”, and will include, but not limited to all labor, materials and equipment necessary to remove the fire hydrant, backfill, compact and return or dispose of the fire hydrant. Pavement or concrete replacement, if any, will be paid for under separate respective bid items. Waterline cut-outs (P1344) and cut and plugs (P1343) will be paid under separate bid items for that work. Fire hydrant valve box and cover removal will be paid under separate bid item for that work.

**42. 610 WATER LINE CONSTRUCTION**, Add the following to **Subsection 610.10 CONNECTION TO EXISTING MAINS**:

**WATER MAIN SHUTDOWN**

For shutdowns that are necessary to accomplish the work, the Contractor will make written request to Water Distribution at least three (3) calendar weeks before the shutdown. Requests will specify location, size of line, duration, date, and time for each shutdown. Within one (1) week, Water Distribution will schedule shutdown and give written notification to the Contractor. Any schedule revisions requested by the Contractor must be in writing. Water Distribution’s revised schedule will be available within one (1) week. The City does not guarantee a totally dry line. The Contractor will be prepared to de-water as necessary to accomplish the work.

The Contractor will be responsible for maintaining accessibility to the valve operating nuts for all valves within the project boundaries. Failure to maintain accessibility to valves will be cause for canceling shutdown, and
the Contractor will be required to request a revised schedule.

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; failure to maintain accessibility to valves; or if the Contractor’s scheduled work did not progress to the anticipated shutdown schedule.

43. **610 WATER LINE CONSTRUCTION.** Add the following to **Subsection 610.11(D) METER SERVICE CONNECTIONS:**

**HORIZONTAL BORING FOR METER SERVICE CONNECTIONS**

For meter service pipes 1-inch or larger in diameter, the maximum bore hole size permissible will be twice the internal diameter of the service line being installed. For meter service pipes smaller than 1-inch in diameter, the maximum borehole size will be two (2) inches in diameter.

44. **618 STORM SEWER CONSTRUCTION WITH PRE-CAST CONCRETE PIPE, HIGH DENSITY POLYETHYLENE PIPE, OR STEEL REINFORCED POLYETHYLENE PIPE:**

Revise all references to the term, “storm sewer” to read, “storm drain.”

45. **618 STORM SEWER CONSTRUCTION WITH PRE-CAST CONCRETE PIPE, HIGH DENSITY POLYETHYLENE PIPE, OR STEEL REINFORCED POLYETHYLENE PIPE,** Add the following to **Subsection 618.3.4 Structures:**

**REBUILD MANHOLE TOP**

If new finish grade of a facility varies two (2) feet or more from existing where existing manholes are located, the adjustment to new finish grade will not be accomplished by adjusting rings alone. In these cases, the top of the manholes will be reconstructed as necessary to accommodate the large grade difference. This may require removal of existing adjustment rings and removal of the manhole cone, and the addition or deletion of a section of manhole shaft to make up the necessary grade adjustment. These major adjustments will be measured by the each and paid for under the bid item, “REBUILD MANHOLE GRADE ADJUSTMENT”, and will be compensation in full for all labor, materials and equipment necessary to rebuild the manhole to the new finish grade.

46. **618 STORM SEWER CONSTRUCTION WITH PRE-CAST CONCRETE PIPE, HIGH DENSITY POLYETHYLENE PIPE, OR STEEL REINFORCED POLYETHYLENE PIPE,** Add the following to **Subsection 618.6 MEASUREMENT:**

(F) **Pipe Plugs:** Pipe plugs, per MAG Detail 427, will be measured per each unit installed, regardless of dimensional differences.

47. **618 STORM SEWER CONSTRUCTION WITH PRE-CAST CONCRETE PIPE, HIGH DENSITY POLYETHYLENE PIPE, OR STEEL REINFORCED POLYETHYLENE PIPE,** Add the following to **Subsection 618.7 PAYMENT:**

(F) **Pipe Plugs:** Pipe plugs, per MAG Detail 427, will be paid for at the unit price bid for each plug, and price will be compensation in full for providing complete, satisfactory pipe plugs including brick or block work, concrete, grout or mortar, vitrified clay or plastic plugs, band seal couplings, any required earthwork, end-of-pipe marker, or any other incidental items necessary.
48.  **620 STORM SEWER CONSTRUCTION WITH CAST-IN-PLACE CONCRETE PIPE:**

Revise all references to the term “storm sewer” to read “storm drain.”

49.  **625 MANHOLE CONSTRUCTION AND DROP SEWER CONNECTIONS,** Add the following to Subsection 625.2 MATERIALS:

Per City of Phoenix Water Services Department, "MAG Standard Detail 425: 24” Aluminum Manhole Frame and Cover” is **not approved** and will not be used in the City of Phoenix.

50.  **625 MANHOLE CONSTRUCTION AND DROP SEWER CONNECTIONS,** Add the following to Subsection 625.3.1 MANHOLES:

If steps are inadvertently installed, they will be removed and the holes will be filled with epoxy or Class “B” concrete.

51.  **625 MANHOLE CONSTRUCTION AND DROP SEWER CONNECTIONS,** Add the following to Subsection 625.3.1, MANHOLES:

**REBUILD MANHOLE TOP**

If new finish grade of a facility varies two (2) feet or more from existing where existing manholes are located, the adjustment to new finish grade will not be accomplished by adjusting rings alone. In these cases, the top of the manholes will be reconstructed as necessary to accommodate the large grade difference. This may require removal of existing adjustment rings and removal of the manhole cone, and the addition or deletion of a section of manhole shaft to make up the necessary grade adjustment. These major adjustments will be measured by the each and paid for under the bid item, “REBUILD MANHOLE GRADE ADJUSTMENT”, and will be compensation in full for all labor, materials and equipment necessary to rebuild the manhole to the new finish grade.

52.  **625 MANHOLE CONSTRUCTION AND DROP SEWER CONNECTIONS,** Add the following to Subsection 625.3.1, MANHOLES:

**SANITARY SEWER MANHOLE ADJUSTMENTS**

On all existing sewer manholes adjusted to new finish grade, the entire new portion of the adjusted manhole will be seal coated in accordance with COP Supplement to MAG Specification Sections 626 and 627.

53.  **625 MANHOLE CONSTRUCTION AND DROP SEWER CONNECTIONS,** **Delete the first paragraph in Subsection 625.5 PAYMENT** and replace with the following:

Manholes will be paid for at the unit price bid for each type, as represented by the respective bid item, regardless of dimensional or other differences occurring within a particular type. The unit price to be paid under these items will be compensation in full for furnishing and placing manhole structures as shown on the plans and as specified, including concrete, reinforcing steel, forming, vibrating, finishing, curing, cast iron manhole frame and cover, frame adjustment to grade, structural excavation, backfill, compaction and any pavement replacement in excess of the applicable pay widths assigned to the adjacent pipes.

54.  **631 WATER TAPS AND METER SERVICE CONNECTIONS,** **Add the following Subsection 631.3 Excavation and Backfill:**
Bedding and backfill will be full depth ABC for water services installed under pavement using open trench method. The cost of the ABC material, labor and compaction will be included in the cost of the water service work.

55. **631 WATER TAPS AND METER SERVICE CONNECTIONS.** Add the following new Subsection 631.9 REPLACEMENT, EXTENSION AND RELOCATION OF EXISTING WATER SERVICES AND METERS as follows:

631.9 REPLACEMENT, EXTENSION AND RELOCATION OF EXISTING WATER SERVICES AND METERS

Extension or Replacement of Existing Water Service Lines

The Contractor will replace or/and extend existing water service lines at the stations listed in these specifications or on the plans in accordance with Detail P-1342. The Engineer will determine when the existing lines are unsatisfactory and must be replaced. Generally, existing copper in good condition with sufficient cover will be extended. Water service lines other than copper will be replaced.

The water service will include, but is not limited to, locating the present tap, trenching, bedding, backfilling, disconnecting the existing service pipe from the corporation stop, furnishing and installing new service pipe, new appurtenant fittings, new curb stop and new meter coupling, and re-connection to the meter. The existing tapping saddle and corporation stop will remain, but the Contractor will not use any other salvaged service connection components. If the saddle is a single strap, the saddle will be replaced with a double strap saddle. In the event there is no tapping saddle, the Contractor will install one. The cost of the saddle and reinstallation of the corporation stop will be considered incidental to the water service replacement.

Inserts or adapters required to connect to the corporation stop are available at the Water Services Department yard at no cost to the Contractor. The Contractor must obtain a written order (AVO) from the Engineer before picking up said items.

Bedding and backfill will be full depth aggregate base course. Payment for furnishing and compacting the aggregate base course will be included in the bid item for replacing or extending existing water services.

The Contractor will schedule his work so that no open trenches are left overnight.

Materials for water service connections will conform to MAG Section 754 and City of Phoenix Supplement 610.4.4 and 610.4.5. Joints in the copper tubing will be made by the use of approved fittings, properly soldered or by means of approved compression fittings such as flared joints or pack joints.

Water Meter Relocation

Water meter relocation consists of disconnecting the meter, moving the meter, meter box and cover from the existing location to the new location and reconnecting in accordance with Details P-1342 and P-1363. The meter box and cover will be set to match the grade at the new location.

Any water meter boxes and/or covers damaged by the Contractor during course of construction will be replaced in kind at the Contractor’s expense.

It is anticipated that some water meter boxes and/or covers may require replacement due to prior damages not due to the fault of the Contractor. The Water Services Department will furnish replacement water meter boxes and covers at no cost; however, the Contractor must first obtain a written order (Field Directive) from
the Engineer. Then, at no additional cost to the City, the Contractor will pick up the specified number of units from the Water Distribution Warehouse located at 2500 S. 22nd Avenue.

Water meter boxes and covers will be Type 1, 2 or 3 in accordance with MAG Details 310, 311, 312, and 320 and P-1315.

All materials and fittings will conform to the requirements of Section 610 and 754. No salvaged service connection components will be used.

**Measurement and Payment**

Measurement for extending and/or replacing water services will be made to the nearest linear foot from the point of connection to the existing line or corporation stop, whichever is applicable, to the curb stop.

Payment for extending and/or replacing water services will be made at the unit price bid per linear foot under the proposal items "3/4-INCH AND 1-INCH WATER SERVICE REPLACEMENT PER SPECIAL PROVISIONS"; and "1 1/2" AND 2" WATER SERVICE REPLACEMENT PER SPECIAL PROVISIONS".

Measurement for water meter relocation will be made per each water meter regardless of size up to and including 2-inch. Payment for water meter relocation will be made at the unit price bid per each under the proposal item "RELOCATE WATER METER" which will include all sizes encountered on the project up to and including 2-inch.

56. **631 WATER TAPS AND METER SERVICE CONNECTIONS.** Add the following new **Subsection 631.11 WATER MAIN SHUTDOWN FEES** as follows:

**631.11 WATER MAIN SHUTDOWN FEES**

All water main shutdown fees for installation of new water services, extension or replacement of existing water service lines, and relocation of existing water meter boxes will be waived. When it becomes necessary to shut down existing water mains and services to install water service extensions or replacements, no main will be left out of service for more than one (1) hour, and no individual service will be disrupted for more than five (5) continuous hours. Main valves will be operated by representatives of the City's Water Services Department. Shutdowns will not begin before 8:00 a.m. and will not extend past 4:00 p.m. It will be the Contractor's responsibility to notify all customers in advance that the water service will be turned off. The customers will be notified in writing at least 24-hours in advance and also verbally the day of the shutdown. Initial notification will include the reason for the shutdown, the date, the time and duration the water service will be shut off. A copy of the notification will be given to the Engineer.
GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES
ENCOUNTERED ON DEVELOPMENT PROJECTS
Arizona Game and Fish Department
Revised October 23, 2007

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

The Sonoran population of desert tortoises occurs south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position parallel to the ground at all times, and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 40 degrees Celsius (105 degrees Fahrenheit) unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to one-half mile, but no further than necessary from its original location. If a release site, or alternate burrow, is unavailable within this distance, and ambient air temperature exceeds 40 degrees Celsius (105 degrees Fahrenheit), the Department should be contacted to place the tortoise into a Department-regulated desert tortoise adoption program. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, will also be placed in desert tortoise adoption programs. Managers of projects likely to affect desert tortoises should obtain a scientific collecting permit from the Department to facilitate temporary possession of tortoises. Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- These guidelines do not apply to the Mohave population of desert tortoises (north and west of the Colorado River). Mohave desert tortoises are specifically protected under the Endangered Species Act, as administered by the U.S. Fish and Wildlife Service.
- These guidelines are subject to revision at the discretion of the Department. We recommend that the Department be contacted during the planning stages of any project that may affect desert tortoises.
- Take, possession, or harassment of wild desert tortoises is prohibited by state law. Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.
CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN

Add the following new Section, **233 STORM WATER POLLUTION PREVENTION PLAN SUBMITTAL PROCESS**

**233.1 DESCRIPTION**
The Contractor will use the Arizona Department of Environmental Quality (ADEQ) Smart NOI program for all submittals located at this web address:

https://az.gov/app/smartnoi/

The location of this process may change and it is the responsibility of the Contractor to verify the correct web address. All fees are the responsibility of the Contractor. The Contractor will apply for a “Stormwater Construction General Permit” with the project type “MUNICIPAL/PUBLIC”.

Before any construction on site begins, the Contractor will submit the Notice of Intent (NOI) and the SWPPP through the Smart NOI program as the sole permittee. The Contractor will not commence any construction activities until the ADEQ send a written Notice Of Intent assigning an AZCON number.

As required by ADEQ the Contractor will submit a Notice of Termination (NOT) through the Smart NOI program. The Contractor will receive final payment only after receiving a written Notice of Termination Acknowledgement from ADEQ.

**Projects Impacting Impaired Waters**

Projects that will have any construction taking place within ¼ mile of the Salt River between 23rd Avenue and the confluence of the Gila River will impact “Impaired Waters”. These projects will require the Contractor to design, implement, and evaluate a Monitoring Plan for stormwater runoff from their construction activities. The Monitoring Plan must be site specific and will be submitted to ADEQ as an appendix to the SWPPP. ADEQ is the final authority in the approval of the monitoring plan. A copy of the SWPPP and the Monitoring Plan will be kept on-site at all times. Additional copies of the Monitoring Plan should be made available to all personnel who anticipate participating in stormwater monitoring activities. The Contractor will have a copy of the monitoring plan, approved SWPPP, NOI, and ADEQ Authorization to Discharge posted at the jobsite prior to ground disturbance.

**Subcontractors**

All subcontractors will comply with all AZPDES requirements under the supervision of the General Contractor, and will submit a completed, signed subcontractor certification form, thereby designating themselves as co-permittees.

**233.2 SAMPLE SWPPP STRUCTURE**
The following is a sample outline of the City requirement for a SWPPP submittal modeled after the ADEQ Construction General Permit Checklist. It will be the Contractor’s responsibility to meet all the ADEQ requirements for a SWPPP and retain a qualified consultant to complete the SWPPP if necessary at no additional cost to the City.
**SITE DESCRIPTION**

1.1 Project Name: CONTRACTOR WILL FILL IN PROJECT NAME

1.2 Project Location: CONTRACTOR WILL FILL IN FOR PROJECT SITE LOCATION

1.3 Owner’s Name:

City of Phoen, Street Transportation Department

1.4 Owner’s Address:

200 West Washington Street, 5th Floor, Phoenix, Arizona 85003

1.5 Project Description: CONTRACTOR WILL FILL IN PROJECT DESCRIPTION

1.6 Runoff Coefficient and Soils Information:

A. Overall runoff coefficient of upstream drainage area will be unchanged by project.

B. Surface Soils Information: (EXAMPLE ONLY, CONTRACTOR WILL FILL IN FOR PROJECT SITE LOCATION)

<table>
<thead>
<tr>
<th>SOIL UNIT</th>
<th>SOIL TYPE (USDA TEXTURE)</th>
<th>PERMEABILITY (IN./HR.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laveen</td>
<td>Loam</td>
<td>0.6-2.0</td>
</tr>
<tr>
<td>Mohall</td>
<td>Clay Loam</td>
<td>0.2-0.6</td>
</tr>
<tr>
<td>Tucson</td>
<td>Clay Loam</td>
<td>0.2-0.6</td>
</tr>
<tr>
<td>Vecont</td>
<td>Clay</td>
<td>0.06-0.2</td>
</tr>
</tbody>
</table>

1.7 Name of Receiving Water:

EXAMPLE: SALT RIVER, CONTRACTOR WILL FILL FOR PROJECT SITE LOCATION

**CONTROLS**

2.1 Erosion and Sediment Controls

2.1.a Stabilization Practices:

Stabilization practices on this site include:

- Permanent planting.
2.1.b Structural Practices:

May include:
- Temporary retention areas (subgrade excavation areas).
- Temporary catch basin inlet protection.
- Silt fence.
- Gravel filter berm.
- Temporary diversion dike.
- Straw bale barriers.
- Sandbag berm.

**CONTRACTOR WILL ADD OR REMOVE STABILIZATION PRACTICES AS NECESSARY**

2.1.c Narrative: Sequence of major activities.

**CONTRACTOR WILL COMPLETE NARRATIVE**

2.1.d Storm Water Management: *(CONTRACTOR WILL EDIT AS NECESSARY)*

Storm water drainage on will be provided by curb and gutter, catch basin inlets, and storm drains. No appreciable changes in runoff coefficients or in finished roadway grades will take place as a result of this project; therefore, no significant alterations of storm water drainage patterns or runoff quantities are expected.

During construction, storm water runoff will be managed by the following means, as conditions require:

- Temporary retention will be provided during roadway construction in areas excavated for subgrade.
- Silt fence, straw bales, sandbag berms, temporary diversion dikes, gravel filter berms or other BMP’s as necessary to eliminate erosion may be used to prevent storm runoff from entering open storm drain pipes in excavated trenches. Temporary catch basin inlet protection may also be provided to remove sediment from drainage water before it enters the drainage system. Straw bale protection at outfall pipe locations may be employed during construction.

3 OTHER CONTROLS

3.1 Waste Disposal:

Waste Materials:

All waste materials including trash and construction debris from the site will be either disposed to a designated area immediately or collected and stored in securely-lidded metal dumpsters. The dumpsters will meet all local and State solid waste management regulations. The dumpsters will be emptied a minimum of once per week, or more often if necessary, and the trash will be hauled to an acceptable dump site. Lids will be closed at all times after work hours and during rain events. No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedures for waste disposal. Notices stating these practices will be posted on site, and the site superintendent who manages the day-to-day site operations, will be responsible for seeing that these procedures are followed.
ENTER PHONE NUMBER AND NAME OF SITE SUPERINTENDENT

Concrete washout will only be allowed in designated areas. The hardened waste will be disposed of weekly and before final inspection of the project.

Hazardous Waste:

All hazardous waste materials will be disposed of in the manner specified by local or State regulations or by the manufacturer. Site personnel will be instructed in these practices, and the site superintendent who manages day-to-day site operations, will be responsible for seeing that these practices are followed.

Sanitary Waste:

All sanitary sewage generated on-site will be collected from the portable units a minimum of twice per week or as required by local regulations. Units will have a berm placed around them to ensure no spillage can occur.

3.2 Off-Site Vehicle Tracking:

Traffic will be maintained on paved roadway throughout construction in order to reduce vehicle tracking of sediments. The paved street beyond the start and end of the project will be swept as often as necessary to remove any excess mud, dirt, or rock that may be tracked from the site by construction vehicles, but not less than once per week. Dump trucks hauling material to or from the construction site will be covered with tarpaulin before leaving the site.

4 DEMONSTRATION OF COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS

The following Federal, State, and City regulations are followed in the preparation of this storm water pollution prevention plan:

- Section 402(p) of the Clean Water Act.
- Amended Section 405 of the Water Quality Act.
- "ADEQ Arizona Pollutant Discharge Elimination System General Permit for Discharge from Construction Activities to Waters of the United States, Permit AZG-2008-001."
- Flood Control District of Maricopa County "Drainage Design Manual for Maricopa County, Arizona, Volume III, Erosion Control."
- City of Phoenix Code 32C, "Storm Water Quality Protection."
- City of Phoenix "Grading and Drainage Ordinance for Purpose of Fulfilling NPDES Requirements."

5 MAINTENANCE/INSPECTION PROCEDURES

5.1 Erosion and Sediment Control Practices:

The following is a list of erosion and sediment controls to be used during the construction period:

5.1.a Stabilization practices for this site include:

- Permanent planting.
Save selected existing trees.
Decomposed granite.

**CONTRACTOR TO ADD/DELETE AS NECESSARY**

5.1.b Structural practices for this site will include:

- Silt fence/straw bale barriers.
- Temporary diversion dike/gravel filter berm.
- Sandbag berm.
- Storm drain, curb and gutter, catch basins.
- Temporary catch basin inlet protection.
- Temporary retention in subgrade excavation areas.

**CONTRACTOR TO ADD/DELETE AS NECESSARY**

5.2 Erosion and Sediment Control Maintenance and Inspection Practice:

Following is a list of the inspection and maintenance practices that will be used to maintain erosion and sediment control:

- All control measures will be inspected at least once every 7 days and within 24 hours after each rain event of 0.1 inch or greater.
- All measures will be maintained in good working order; if repair is necessary, it will be initiated within 24 hours of report. All changes will be completed within 14 days after an observation.
- Built-up sediment will be removed from silt fence when it has reduced the design capacity by 50%.
- Erosion control fabric and erosion control dikes will be inspected and any breaches promptly repaired.
- Permanent planting will be inspected for washout and healthy growth per specification requirements.
- A Compliance Evaluation Report will be made at each inspection to ensure all BMP’s are functioning correctly.
- The site superintendent will be responsible for inspection, maintenance, and repair activities, and filling out the Compliance Evaluation Report.
- Personnel selected for inspection and maintenance responsibility will receive training from the site superintendent. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used on-site in good working order.
- Only one side of roadways will be excavated for subgrade preparation at a time. This area will serve as temporary retention while traffic is maintained on the paved other half of the road. This will serve to control storm water and minimize tracking of sediments.

6 **INVENTORY FOR POLLUTION PREVENTION PLAN (CONTRACTOR TO EDIT AS NECESSARY)**

The materials or substances listed below are expected to be present on-site during construction:

- Concrete
- Asphaltic Concrete
- Fertilizers
- Petroleum-Based Products
- Cleaning Solvents/Agents
- Sealants
- Wood
- Paints
- Herbicide/Pesticide
- Soil Treatment Products
- Other Building Materials
- Water Used in Dust Control

6.1 Spill Prevention
The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff:

6.1.a Good Housekeeping:

The following good housekeeping practices will be followed on-site during the construction period:

- An effort will be made to store only enough product required to do the immediate job.
- All materials stored on-site will be stored in a neat, orderly manner in their appropriate containers and, if possible, under proper cover and palletized.
- Liquid products will be placed on secondary containment pallets.
- Fuel tanks will be double walled.
- Drip pans will be used under all spigots unless on secondary containment.
- Products will be kept in their original containers with the original manufacturers' label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used up before disposing of the container.
- Manufacturers' recommendations for proper use and disposal will be followed.
- The site superintendent will inspect daily to ensure proper use and disposal of materials.
- Concrete washout will only be allowed in designated areas. The hardened waste will be disposed of weekly and before final inspection of the project.

6.1.b Hazardous Products:

These practices are used to reduce the risks associated with hazardous materials:

- Products will be kept in original containers unless they are not resealable.
- Original labels and material safety data sheets will be retained.
- If surplus product must be disposed of, manufacturers’, or local and State recommended methods for proper disposal will be followed.
- Products will be monitored, an inventory will be conducted regularly, and documentation of all use and disposal will be maintained.

6.2 Product Specific Practices:

The following product specific practices will be followed on-site:

6.2.a Petroleum Products:

All on-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce any chance of leakage. Petroleum products will be stored in tightly-sealed containers which are clearly labeled. Any petroleum substances used on-site will be applied according to the manufacturer's recommendations. Spills and leaks from vehicles will be stopped immediately. Any leaking vehicle will have a drip pan placed under the leak until the unit is repaired. Secondary containment will be provided for all petroleum products stored onsite.

6.2.b Fertilizers, Herbicide, Pesticide, Soil Treatment:

All materials used will be applied only in the minimum amounts recommended by the manufacturer or as per specification. Once applied, materials will be worked into the soil to limit exposure to storm water.
On-site storage will be covered and palletized to limit contact with storm water. The contents of any partially-used bags or containers will be transferred to a sealable plastic bin to avoid spills.

6.2.c Paints:

All containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm drain system or on the ground, but will be properly disposed of according to manufacturers’ instructions or State and local regulations.

6.2.d Concrete Trucks:

Concrete trucks will not be allowed to wash out or discharge surplus concrete or dump wash water other than in a designated wash-out area. The hardened waste will be disposed of weekly and before final inspection of the project.

6.3 Spill Prevention Practices:

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

- Manufacturers’ recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area on-site. Equipment and materials will include, but not be limited to, brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically designed for this purpose.
- All spills will be cleaned up immediately after discovery using dry cleanup methods.
- The spill area will be kept well-ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size—ADEQ Hotline: (602) 771-4505; City of Phoenix Hazardous Spills Emergency: 911; City of Phoenix Hazardous Spills Safety Section: (602) 262-7555.
- The spill prevention plan will be adjusted to include measures to prevent this type of spill from recurring and procedures to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.
- The site superintendent will be responsible for the day-to-day site operations, will be the spill prevention and cleanup coordinator. He will designate other site personnel who will receive spill prevention and cleanup training.

6.4 Documentation:

Documentation of all inspections, failed BMP’s, corrective action and training will be maintained onsite with the SWPPP at all times during the project, and will be maintained for not less than three (3) years after the project is complete.
OTHER REQUIRED CERTIFICATIONS

The Contractor will complete and submit the following certification forms to the City before construction begins:

- Permitee Certification
- Contractor Certification
- Subcontractor Certification (for all Subcontractors as necessary)
- Operator’s Compliance Evaluation Report
PERMITTEE’S CERTIFICATION

As Contractor of the 27th Avenue – Lower Buckeye Road to Buckeye Road Roadway Improvement project, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

________________________________________

Company

Name: ________________________________

Title: ________________________________

Signature: ___________________________

Date: ________________________________
CONTRACTOR CERTIFICATION

I certify under penalty of law that I understand the terms and condition of the General Arizona Pollutant Discharge Elimination System (AZPDES) Permit that authorizes the storm water discharges associated with industrial activities from the construction site identified as part of this certification. Further, by my signature, I understand that I am becoming a co-permittee, along with the subcontractors signing such certifications, to the general (AZPDES) Permit for the storm water discharges associated with construction activities of the 27th Avenue – Lower Buckeye Road to Buckeye Road Roadway Improvement project. As a co-permittee, I understand that I, and my company, are legally required under the Clean Water Act, to ensure compliance with the terms and conditions of the storm water pollution prevention plan developed under the AZPDES Permit and the terms of the AZPDES Permit.

____________________________
General Contractor and Responsibility

Name: __________________________

Title: __________________________

Signature: _______________________
SUBCONTRACTOR'S CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of the General Arizona Pollutant Discharge Elimination System (AZPDES) Permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification. Further, by my signature, I understand that I am becoming a co-permittee, along with the owner(s) and other contractors and subcontractors signing such certifications, to the general AZPDES permit for the storm water discharges associated with construction activities of the 27th Avenue – Lower Buckeye Road to Buckeye Road Roadway Improvement project. As a co-permittee, I understand that I, and my company, are legally required under the Clean Water Act, to ensure compliance with the terms and conditions of the storm water pollution prevention plan developed under the AZPDES permit and the terms of the AZPDES permit.

Authorized Representative of Subcontractor: __________________________________________

Signature: ___________________________ Date: ___________________________

For (Subcontractor Name): __________________________________________

Construction Activities: __________________________________________


Verification of Completion and Acceptance of Subcontractor’s Work

All work to be performed by __________________________________________ (Subcontractor) as part of the 27th Avenue – Lower Buckeye Road to Buckeye Road Roadway Improvement project has been completed and accepted. Execution of this form absolves said subcontractor from liability for AZPDES violations which may occur subsequent to this date as a result of activities of the general contractor or other subcontractors.

Authorized Representative of Subcontractor: __________________________________________

Signature: ___________________________ Date: ___________________________

For (Subcontractor Name): __________________________________________

Verified by (General Contractor): __________________________________________

Authorized Representative of General Contractor: __________________________________________

Signature: ___________________________ Date: ___________________________
CONSTRUCTION NOTES:

TUBE INSTALLATION
1. DIG HOLE FOR TUBE 6'-6" DEEP BY EITHER OF THE FOLLOWING:
   A. AUGERED HOLE (16' MAX.)
   B. SLOTTED STUB-OUT TRENCH
2. PLACE RED PLASTIC LOCATOR MARKER OUTSIDE OF TUBE AND STRAP IN TWO LOCATIONS.
3. PLACE STREET LIGHT FLEXIBLE CONDUIT IN TUBE WITH 10' COILED INSIDE. DO NOT MAKE SHARP BENDS.
   BEND END OF CONDUIT OVER AND INSERT DOWN INTO TUBE AS SHOWN. INSPECTOR TO INSURE FLEX IS NOT KINKED.
4. INSTALL OTHER END OF FLEX IN J-BOX. LEAVE SMALL COIL TO ALLOW LEVELING FOR FINAL GRADE. BACKFILL AFTER INSPECTION IS COMPLETE.
5. COMPACT SOIL TO AT LEAST 85% AROUND TUBE.

POLE INSTALLATION
1. ELECTRONIC MARKER WILL INDICATE LID LOCATION PER BLUE STAKE MARKINGS. WORK FORCES WILL DIG DOWN TO LID, REMOVE LID AND PULL FLEX FROM TUBE.
2. INSERT END OF FLEX THROUGH ACCESS HOLE AND PUSH IT UP THROUGH HAND HOLE AS STREET LIGHT POLE IS LOWERED INTO THE TUBE.
3. HOLD POLE SECURELY WHILE BACKFILLING TO AT LEAST 85% COMPACTION. TO COMPACT POLE IN PLACE, PEA GRAVEL (<3/4") MAY BE USED NEAR THE TUBE.
4. THE MARKER BALL ATTACHED TO THE BOTTOM OF THE "SONO" TUBE LID SHOULD BE RETURNED TO STOCK.

REFERENCES:
1. FOR J-BOX SEE SPEC 8655 THRU 8663.

MATERIAL LIST

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<tr>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>
October 28, 2016

T.Y. Lin International
60 East Rio Salado Parkway, Suite 501
Tempe, Arizona  85281

Attn: Carlos Sanchez-Soria, P.E.

Re:  Geotechnical Engineering Report  
27th Avenue Improvements  
Lower Buckeye Road to Buckeye Road  
Phoenix, Arizona  
Terracon Project No. 65165171  
City of Phoenix Project No. ST85100341

Dear Mr. Sanchez-Soria:

Terracon Consultants, Inc. (Terracon) has completed the geotechnical engineering services for the above referenced project. These services were performed in general accordance with our Proposal No. P65150390, Revision No. 3 dated March 9, 2016. This geotechnical engineering report presents the results of the subsurface exploration and provides pavement subgrade parameters for design of the planned roadway improvements.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,

Terracon Consultants, Inc.

Jesse R. Huston, P.E.  
Senior Project Manager

Donald R. Clark, P.E.  
Senior Principal

Copies to: Addressee (1 via email)
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<th>Page</th>
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<td>5</td>
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<td>6</td>
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## Appendix A – Field Exploration

- Site Plan and Boring Locations: A-1 & A-2
- Field Exploration Description: A-3
- General Notes: A-4
- Unified Soil Classification System: A-5
- Borings Logs: A-6 thru A-9

## Appendix B – Laboratory Test Results

- Laboratory Test Description: B-1
- Atterberg Limits Results: B-2
- Grain Size Distribution: B-3
- Summary of Grain Size Distribution: B-4
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- Mean R-Value and Modulus Calculations: C-1
1.0 INTRODUCTION

This report presents the results of our geotechnical engineering services performed for the planned 27th Avenue Improvements between Lower Buckeye Road and Buckeye Road in Phoenix, Arizona. The purpose of our geotechnical engineering services is to provide information and geotechnical engineering recommendations relative to:

- subsurface soil conditions
- pavement subgrade parameters
- earthwork
- groundwater conditions

Our geotechnical engineering scope of work for this project included advancing four borings for subsurface exploration, laboratory testing, geotechnical engineering analysis, and preparation of this report. Site Plan and Boring Locations diagrams (Exhibits A-1 and A-2) and boring logs are included in Appendix A of this report. The results of the laboratory testing performed on soil samples obtained from the site during the field exploration are included in Appendix B of this report. Descriptions of the field exploration and laboratory testing are included in their respective appendices.

2.0 PROJECT INFORMATION

2.1 Project Description

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Layout</td>
<td>See Exhibits A-1 and A-2 in Appendix A.</td>
</tr>
<tr>
<td>Improvements</td>
<td>Planned improvements will consist of widening to both sides of the existing road in select locations to provide a five-lane section throughout the project limits.</td>
</tr>
</tbody>
</table>
2.2 Site Description

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>The project site is located along 27th Avenue, roughly from Buckeye Road to Lower Buckeye Road in Phoenix, Arizona.</td>
</tr>
<tr>
<td>Existing Improvements</td>
<td>The existing 27th Avenue alignment is a north-south trending asphalt-paved roadway. Within the project limits, the roadway width varies from one to two lanes in each direction with dedicated turn lanes at major intersections. Some portions of the roadway include curb, gutter, and sidewalk improvements. The roadway is bordered by commercial developments and undeveloped land.</td>
</tr>
<tr>
<td>Current ground cover</td>
<td>Asphalt concrete pavement and bare soil.</td>
</tr>
<tr>
<td>Existing topography</td>
<td>Appears to be relatively flat.</td>
</tr>
</tbody>
</table>

3.0 SUBSURFACE CONDITIONS

3.1 Site Geology

The project area is located in the Basin and Range physiographic province (1Cooley, 1967) of the North American Cordillera (2Stern, et al, 1979) of the southwestern United States. The southern portion of the Basin and Range province is situated along the southwestern flank of the Colorado Plateau and is bounded by the Sierra Nevada Mountains to the west. Formed during middle and late Tertiary time (100 to 15 million years ago), the Basin and Range province is dominated by fault controlled topography. The topography consists of mountain ranges and relatively flat alluviated valleys. These mountain ranges and valleys have evolved from generally complex movements and associated erosional and depositional processes.

---

Surficial geologic conditions mapped in the project vicinity (Richard, et al., 2000) consist of Holocene river alluvium. This unit is described as unconsolidated to weakly consolidated sand and gravel in river channels and sand, silt, and clay on floodplains.

### 3.2 Subsurface Soil Conditions

Specific conditions encountered at each boring location are indicated on the individual boring logs included in Appendix A. Stratification boundaries on the boring logs represent the approximate location of changes in soil types; in-situ, the transition between materials may be gradual.

Based on the conditions encountered in the borings, the subsurface conditions along the project alignment can be generalized as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Approximate Depth to Bottom of Stratum (feet)</th>
<th>Material Encountered</th>
<th>Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stratum 1a</td>
<td>0.25 to 1.5</td>
<td>FILL: Silty Sand w/ Gravel</td>
<td>---</td>
</tr>
<tr>
<td>Stratum 1b</td>
<td>5</td>
<td>Sandy Silt and Clay Soils</td>
<td>Stiff to Very Stiff</td>
</tr>
</tbody>
</table>

Laboratory tests were conducted on selected soil samples and the test results are presented in Appendix B. Moisture content, dry density and Atterberg limits test results are also presented on the boring logs at the sample depth. Laboratory test results indicate the sandy silt and clay subgrade soils generally exhibit low to medium plasticity characteristics.

### 3.3 Laboratory Test Data – Subgrade Soils

The results of the laboratory testing, including the correlated R-Values and tested R-Value are summarized in the following table:

<table>
<thead>
<tr>
<th>Boring</th>
<th>Depth (ft.)</th>
<th>LL</th>
<th>PI</th>
<th>-#200</th>
<th>R-Value Correlated</th>
<th>R-Value Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>0.5</td>
<td>27</td>
<td>11</td>
<td>60</td>
<td>28</td>
<td>15</td>
</tr>
<tr>
<td>B-2</td>
<td>1</td>
<td>22</td>
<td>3</td>
<td>56</td>
<td>41</td>
<td>---</td>
</tr>
<tr>
<td>B-3</td>
<td>1.5</td>
<td>23</td>
<td>6</td>
<td>55</td>
<td>37</td>
<td>18</td>
</tr>
<tr>
<td>B-4</td>
<td>0.5</td>
<td>28</td>
<td>14</td>
<td>68</td>
<td>22</td>
<td>---</td>
</tr>
</tbody>
</table>

---

The in-situ moisture content and dry density of the subgrade soils was determined in the laboratory from samples obtained during the field exploration, and the results are summarized in the following table:

<table>
<thead>
<tr>
<th>Boring</th>
<th>Roadway</th>
<th>Approximate Station</th>
<th>Centerline Offset</th>
<th>Depth (ft.)</th>
<th>Moisture Content (%)</th>
<th>Dry Density (pcf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>27TH Avenue</td>
<td>STA 15+00</td>
<td>35’ Right</td>
<td>1</td>
<td>7.7</td>
<td>98</td>
</tr>
<tr>
<td>B-2</td>
<td>27TH Avenue</td>
<td>STA 21+75</td>
<td>35’ Right</td>
<td>1</td>
<td>7.8</td>
<td>92</td>
</tr>
<tr>
<td>B-3</td>
<td>27TH Avenue</td>
<td>STA 43+25</td>
<td>25’ Right</td>
<td>1</td>
<td>10.1</td>
<td>98</td>
</tr>
<tr>
<td>B-4</td>
<td>27TH Avenue</td>
<td>STA 52+75</td>
<td>35’ Right</td>
<td>1</td>
<td>11.7</td>
<td>95</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9.3</td>
<td>96</td>
</tr>
</tbody>
</table>

### 3.4 Groundwater Conditions

Groundwater was not observed in any boring at the time of field exploration. These observations represent groundwater conditions at the time of the field exploration and may not be indicative of other times, or at other locations. Groundwater conditions can change with varying seasonal and weather conditions, and other factors. Based on information obtained from the Arizona Department of Water Resources (ADWR) – Groundwater Data website, the depth to regional groundwater was measured in December 2015 to be approximately 105 feet below the ground surface (approximate elevation of 955 feet above mean sea level) at an ADWR monitored well site (Local I.D. A-01-03 18BBC) located approximately one mile west of the site.

### 4.0 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION

#### 4.1 Geotechnical Considerations

The results of the field and laboratory testing indicate that fine-grained (i.e., silt and clay) subgrade soils exist at the project site. These material types are typically considered to be relatively poor subgrade soils from a pavement support standpoint. Consideration should be given to improving the subgrade soils by cement treatment, placement of a reinforcing geogrid, or other improvement measures to reduce the overall pavement section thickness and/or increase the design life of the pavement.

Spread fill was encountered at the surface at all four boring locations. The fill consisted of silty sand with gravel and appeared to be aggregate base course and/or asphalt millings. The fill thickness varied from approximately 3 inches to 1.5 feet at the boring locations. The fill soils are considered suitable for support of the new roadway section, provided they are moisture conditioned and compacted. It is anticipated that the planned roadway excavation and subgrade preparation will treat the fill materials to the depths encountered in the borings.
4.2 Pavement Subgrade Parameters

The mean R-value and associated resilient modulus for the roadway subgrade soils were
determined in general accordance with the ADOT Materials Preliminary Engineering and Design
Manual. Correlated R-values were determined from four samples of anticipated subgrade material
tested for sieve analysis and plasticity index, and two of these samples were also tested directly for
R-value. The results are presented in Appendix C and summarized in the following table:

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Minimum R-Value</th>
<th>Maximum R-Value</th>
<th>Seasonal Variation Factor</th>
<th>Mean R-Value</th>
<th>Resilient Modulus (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>27th Avenue</td>
<td>15</td>
<td>40</td>
<td>1.0</td>
<td>18.3</td>
<td>11,234</td>
</tr>
</tbody>
</table>

4.3 General Earthwork Considerations

The following presents recommendations for excavation and subgrade preparation on the project.
Earthwork on the project should be observed and evaluated by a licensed geotechnical engineer.
The evaluation of earthwork should include observation and testing of engineered fill, subgrade
preparation, and other geotechnical conditions exposed during the construction of the project.

It is anticipated that excavations for the proposed construction can be accomplished with
conventional earthmoving equipment. Based upon the subsurface conditions determined from
the geotechnical exploration, the subgrade soils exposed during construction are expected to be
relatively stable, although the fine-grained subgrade soils are susceptible to becoming unstable
when overly wetted. The stability of the subgrade may be affected by repetitive construction traffic
or other factors.

Subgrade preparation should be completed per Section 301 of the latest City of Phoenix
Supplement to the Maricopa Association of Governments (MAG) Uniform Standard
Specifications. The subgrade soils should be within 2% of optimum moisture content at the time
of compaction. Exposed surfaces should be free of mounds and depressions which could prevent
uniform compaction.

4.4 Earthwork Factors

The average laboratory tested in-situ dry density of subgrade soils at a depth of 1-foot at the
boring locations is 96 pcf. Considering the laboratory tested maximum dry density of 116.5 pcf
for subgrade soils from Boring B-2, and an average relative compaction of 97%, the estimated
earthwork factor for the project due to re-compaction of the subgrade soils was calculated and is
presented in the following table along with the estimated ground compaction:
### 4.5 Water

For balancing grading plans, approximately 60 gallons of water per cubic yard should be estimated for compaction of base materials. Approximately 60 gallons of water per cubic yard should be estimated for compaction of subgrade materials.

The application of water estimated for subgrade materials is considerably higher than the amount calculated based upon the difference between in-situ and optimum compaction moisture content, and includes a conservative overrun for losses due to seepage, evaporation, inadequate mixing, spillage, etc. Precipitation during and/or before construction, or other weather conditions may reduce the required amount of water.

### 5.0 GENERAL COMMENTS

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.
APPENDIX A
FIELD EXPLORATION
APPROXIMATE SCALE

1" = 100'

LOWER BUCKEYE ROAD TO BUCKEYE ROAD
PHOENIX, ARIZONA

SITE PLAN AND BORING LOCATIONS
27TH AVENUE (ST85100341)
LOWER BUCKEYE ROAD TO BUCKEYE ROAD
PHOENIX, ARIZONA

EXHIBIT A-1
Field Exploration Description

A total of four borings were advanced at the site on September 27, 2016. The borings were advanced to a depth of approximately five (5) feet below the ground surface in the right unpaved shoulder area of the existing roadway in the planned widening areas. The approximate boring locations are shown on the attached Site Plan and Borings Locations diagrams, Exhibits A-1 and A-2. The latitude and longitude coordinates presented on the boring logs were determined using Google Earth Pro and should be considered approximate.

The test borings were advanced with a truck-mounted Diedrich D-120 drill rig utilizing 8-inch outside diameter hollow-stem augers. Each borehole was backfill with auger cuttings upon completion. A hand tamper was used to compact the borehole backfill materials.

A continuous lithologic log of each boring was recorded by the field geologist during the drilling operations. At selected intervals, samples of the subsurface materials were taken by ring-lined barrel samplers in general accordance with ASTM Standards. Penetration resistance measurements were obtained by driving the ring-lined barrel samplers into the subsurface materials with a 140-pound automatic hammer falling 30 inches. The penetration resistance value is a useful index in estimating the consistency or relative density of materials encountered. Bulk samples of subsurface materials were also obtained from the auger cuttings.

Groundwater conditions were evaluated in the borings at the time of site exploration.
### GENERAL NOTES

#### DESCRIPITIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

#### LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

#### RELATIVE DENSITY OF COARSE-GRAINED SOILS

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
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<tr>
<td>Very Loose</td>
<td>0 - 3</td>
<td>0 - 6</td>
<td>Very Soft</td>
<td>less than 500</td>
<td>0 - 1</td>
<td>&lt; 3</td>
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<tr>
<td>Loose</td>
<td>4 - 9</td>
<td>7 - 18</td>
<td>Soft</td>
<td>500 to 1,000</td>
<td>2 - 4</td>
<td>3 - 4</td>
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<tr>
<td>Medium Dense</td>
<td>10 - 29</td>
<td>19 - 58</td>
<td>Medium-Stiff</td>
<td>1,000 to 2,000</td>
<td>4 - 8</td>
<td>5 - 9</td>
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<tr>
<td>Dense</td>
<td>30 - 50</td>
<td>59 - 98</td>
<td>Stiff</td>
<td>2,000 to 4,000</td>
<td>8 - 15</td>
<td>10 - 18</td>
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<tr>
<td>Very Dense</td>
<td>&gt; 50</td>
<td>&gt; 99</td>
<td>Very Stiff</td>
<td>4,000 to 8,000</td>
<td>15 - 30</td>
<td>19 - 42</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Hard</td>
<td>&gt; 8,000</td>
<td>&gt; 30</td>
<td>&gt; 42</td>
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#### RELATIVE PROPORTIONS OF SAND AND GRAVEL

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<th>Descriptive Term(s) of other constituents</th>
<th>Percent of Dry Weight</th>
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<tr>
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<td>&lt; 15</td>
</tr>
<tr>
<td>With Modifier</td>
<td>15 - 29</td>
</tr>
<tr>
<td>Modifier</td>
<td>&gt; 30</td>
</tr>
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</table>

#### GRAIN SIZE TERMINOLOGY

<table>
<thead>
<tr>
<th>Term</th>
<th>Particle Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boulders</td>
<td>Over 12 in. (300 mm)</td>
</tr>
<tr>
<td>Cobbles</td>
<td>12 in. to 3 in. (300mm to 75mm)</td>
</tr>
<tr>
<td>Gravel</td>
<td>3 in. to #4 sieve (75mm to 4.75 mm)</td>
</tr>
<tr>
<td>Sand</td>
<td>#4 to #200 sieve (4.75mm to 0.075mm)</td>
</tr>
<tr>
<td>Silt or Clay</td>
<td>Passing #200 sieve (0.075mm)</td>
</tr>
</tbody>
</table>

#### RELATIVE PROPORTIONS OF FINES

<table>
<thead>
<tr>
<th>Descriptive Term(s) of other constituents</th>
<th>Percent of Dry Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trace</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>With Modifier</td>
<td>5 - 12</td>
</tr>
<tr>
<td>Modifier</td>
<td>&gt; 12</td>
</tr>
</tbody>
</table>

#### PLASTICITY DESCRIPTION

<table>
<thead>
<tr>
<th>Term</th>
<th>Plasticity Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-plastic</td>
<td>0</td>
</tr>
<tr>
<td>Low</td>
<td>1 - 10</td>
</tr>
<tr>
<td>Medium</td>
<td>11 - 30</td>
</tr>
<tr>
<td>High</td>
<td>&gt; 30</td>
</tr>
</tbody>
</table>
### UNIFIED SOIL CLASSIFICATION SYSTEM

#### Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests

<table>
<thead>
<tr>
<th>Soil Classification</th>
<th>Group Symbol</th>
<th>Group Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Gravels: Less than 5% fines</td>
<td>Cu ≥ 4 and 1 ≤ Cc ≤ 3</td>
<td>GW</td>
</tr>
<tr>
<td>Gravels with Fines: More than 12% fines</td>
<td>Cu &gt; 4 and/or 1 &gt; Cc &gt; 3</td>
<td>GP</td>
</tr>
<tr>
<td>Gravels classify as ML or MH</td>
<td>Fines classify as CL or CH</td>
<td>GC</td>
</tr>
<tr>
<td>Clean Sands: Less than 5% fines</td>
<td>Cu ≥ 6 and 1 ≤ Cc ≤ 3</td>
<td>SW</td>
</tr>
<tr>
<td>Sands with Fines: More than 12% fines</td>
<td>Fines classify as ML or MH</td>
<td>SM</td>
</tr>
<tr>
<td>Silts and Clays: Liquid limit less than 50</td>
<td>Inorganic: Pl &gt; 7 and plots on or above “A” line</td>
<td>CL</td>
</tr>
<tr>
<td>Organic: Pl &lt; 4 or plots below “A” line</td>
<td>ML</td>
<td>Silt</td>
</tr>
<tr>
<td>Liquid limit - oven dried &lt; 0.75</td>
<td>OL</td>
<td>Organic clay</td>
</tr>
<tr>
<td>Liquid limit - not dried</td>
<td>Organic silt</td>
<td></td>
</tr>
<tr>
<td>Silts and Clays: Liquid limit 50 or more</td>
<td>Inorganic: Pl plots on or above “A” line</td>
<td>CH</td>
</tr>
<tr>
<td>Organic: Pl plots below “A” line</td>
<td>MH</td>
<td>Elastic Silt</td>
</tr>
<tr>
<td>Liquid limit - oven dried &lt; 0.75</td>
<td>OH</td>
<td>Organic clay</td>
</tr>
<tr>
<td>Liquid limit - not dried</td>
<td>Organic silt</td>
<td></td>
</tr>
<tr>
<td>Highly organic soils: Primarily organic matter, dark in color, and organic odor</td>
<td>PT</td>
<td>Peat</td>
</tr>
</tbody>
</table>

- **A** Based on the material passing the 3-inch (75-mm) sieve
- **B** If field sample contained cobbles or boulders, or both, add “with cobbles or boulders, or both” to group name.
- **C** Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.
- **D** Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.
- **E** Cu = \( \frac{D_{60}}{D_{10}} \)  
  \[ Cc = \frac{(D_{60})^2}{D_{10} \times D_{60}} \]
- **F** If soil contains ≥ 15% sand, add “with sand” to group name.
- **G** If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

---

**EXHIBIT A-5**
### BORING LOG NO. B-1

**PROJECT:** 27th Avenue Improvements  
**SITE:** Lower Buckeye Road to Buckeye Road  
**Location:** Phoenix, Arizona  
**CLIENT:** T.Y. Lin International  
**Tempe, Arizona**

**Location:** See Exhibit A-1  
Latitude: 33.434104°  
Longitude: -112.117156°  
Station: 15+00  
Offset: 35' Right

#### GRAPHIC LOG

- **Depth:** 5 feet
- **Fill - Silty Sand with Gravel (SM),** 3-inch thick surface layer
- **Sandy Lean Clay (CL),** trace gravel, brown, very stiff

#### FIELD TEST RESULTS

<table>
<thead>
<tr>
<th>DEPTH (FL)</th>
<th>WATER LEVEL OBSERVATIONS</th>
<th>FIELD TEST RESULT</th>
<th>PERCENT FINES</th>
<th>ATTERBERG LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>11-11</td>
<td></td>
<td>8</td>
<td>98</td>
</tr>
</tbody>
</table>

#### WATER LEVEL OBSERVATIONS

- Groundwater not encountered

**Advancement Method:** Hollow Stem Auger

**Abandonment Method:** Borings backfilled with soil cuttings upon completion.

**Notes:** City of Phoenix Project No. ST85100341

**Hammer Type:** Automatic

**Boring Terminated at 5 Feet**

**Stratification lines are approximate. In-situ, the transition may be gradual.**

**Terracon**

4585 S Ash Ave Ste H-4  
Tempe, AZ  
Project No.: 65165171  
Exhibit: A-6
**BORING LOG NO. B-2**

**PROJECT:** 27th Avenue Improvements  
**SITE:** Lower Buckeye Road to Buckeye Road, Phoenix, Arizona

**CLIENT:** T.Y. Lin International  
**LOCATION:** See Exhibit A-1

Latitude: 33.431501°  Longitude: -112.117143°  
Station: 21+75  Offset: 35' Right

**DEPTH**

<table>
<thead>
<tr>
<th>DEPTH (FT)</th>
<th>WATER LEVEL OBSERVATIONS</th>
<th>FIELD TEST RESULTS</th>
<th>WATER CONTENT (%)</th>
<th>DRY UNIT WEIGHT (pcf)</th>
<th>ATTERBERG LIMITS</th>
<th>LL-PL-PI</th>
<th>PERCENT FINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td>FILL - SILTY SAND WITH GRAVEL (SM), 8-inch thick surface layer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>SANDY SILT (ML), trace gravel, brown, stiff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boring Terminated at 5 Feet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FILL - SILTY SAND WITH GRAVEL (SM), 8-inch thick surface layer**

**SANDY SILT (ML), trace gravel, brown, stiff**

**Stratification lines are approximate. In-situ, the transition may be gradual.**

**FIELD TEST RESULTS**

- Debris
- Sediment

- Water Level Observations

- Lower Buckeye Road to Buckeye Road                    Phoenix, Arizona

- Advancement Method: Hollow Stem Auger
- Abandonment Method: Borings backfilled with soil cuttings upon completion.

**WATER LEVEL OBSERVATIONS**

- Groundwater not encountered

**Notes:**

- City of Phoenix Project No. ST85100341

**TERRACON**

4650 S Ash Ave Ste H-4  
Tempe, AZ

- Boring Started: 9/27/2016  
- Boring Completed: 9/27/2016

- Drill Rig: D-120  
- Driller: D&S Drilling

- Project No.: 65165171  
- Exhibit: A-7
### BORING LOG NO. B-3

**PROJECT:** 27th Avenue Improvements  
**CLIENT:** T.Y. Lin International  
**SITE:** Lower Buckeye Road to Buckeye Road  
**LOCATION:** Phoenix, Arizona

#### GRAPHIC LOG
- **Latitude:** 33.425305°  
- **Longitude:** -112.117085°  
- **Station:** 43+25  
- **Offset:** 25' Right

#### ADVANCEMENT METHODOLOGY
- **Method:** Hollow Stem Auger
- **Abandonment:** Borings backfilled with soil cuttings upon completion.

#### WATER LEVEL OBSERVATIONS
- **Groundwater Not Encountered**

#### FIELD TEST RESULTS

<table>
<thead>
<tr>
<th>DEPTH (FT)</th>
<th>WATER LEVEL OBSERVATIONS</th>
<th>FIELD TEST RESULTS</th>
<th>WATER CONTENT (%)</th>
<th>DRY UNIT WEIGHT (pcf)</th>
<th>LL-PL-PI</th>
<th>ATTERBERG LIMITS</th>
<th>PERCENT FINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.5</td>
<td><strong>FILL - SILTY SAND WITH GRAVEL (SM), loose</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td><strong>SANDY SILTY CLAY (CL-ML), brown, stiff</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td><strong>Boring Terminated at 5 Feet</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Notes:
- **City of Phoenix Project No. ST85100341**
- **Drill Rig:** D-120  
- **Driller:** D&S Drilling  
- **Project No.:** 65165171  
- **Exhibit:** A-8

---

Stratification lines are approximate. In-situ, the transition may be gradual.
PROJECT: 27th Avenue Improvements
CLIENT: T.Y. Lin International

SITE: Lower Buckeye Road to Buckeye Road
Phoenix, Arizona

LOCATION See Exhibit A-2
Latitude: 33.423728° Longitude: -112.117082°
Station: 52+75 Offset: 35' Right

DEPTH

3.0 FILL - SILTY SAND WITH GRAVEL (SM), 3-inch thick surface layer
SANDY LEAN CLAY (CL), brown, stiff

Boring Terminated at 5 Feet

WATER LEVEL OBSERVATIONS
Groundwater not encountered

Hallmark Type: Automatic

Notes:
City of Phoenix Project No. ST85100341

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

WATER LEVEL OBSERVATIONS

DEPTH (FT.) | FIELD TEST RESULT | WATER CONTENT (%) | DRY UNIT WEIGHT (pcf) | ATTERBERG LIMITS
---|---|---|---|---
5 | 7-7 | 12 | 95 | 28-14-14 | 68

Stratification lines are approximate. In-situ, the transition may be gradual.

City of Phoenix Project No. ST85100341

Drill Rig: D-120
Driller: D&S Drilling

Project No.: 65165171
Exhibit: A-9

4685 S Ash Ave Ste H-4
Tempe, AZ
APPENDIX B
LABORATORY TESTING
Laboratory Testing

Samples retrieved during the field exploration were taken to the laboratory for further observation by the project geotechnical engineer and were classified in accordance with the Unified Soil Classification System (USCS) described in Appendix A. At that time, the field descriptions were confirmed or modified as necessary and an applicable laboratory testing program was formulated to determine engineering properties of the subsurface materials.

Laboratory tests were conducted on selected soil samples and the test results are presented in this appendix. The laboratory test results were used for the geotechnical engineering analyses, and the development of foundation recommendations. Laboratory tests were performed in general accordance with the applicable ASTM, local or other accepted standards.

Selected soil samples obtained from the site were tested for the following engineering properties:

- Atterberg Limits
- Sieve Analysis
- R-Value
- Moisture-Density Relationship
## ATTERBERG LIMITS RESULTS

**ASTM D4318**

### Atterberg Limits Results

<table>
<thead>
<tr>
<th>Boring ID</th>
<th>Depth</th>
<th>LL</th>
<th>PL</th>
<th>PI</th>
<th>Fines</th>
<th>USCS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>0.5 - 5</td>
<td>27</td>
<td>16</td>
<td>11</td>
<td>60</td>
<td>CL</td>
<td>SANDY LEAN CLAY</td>
</tr>
<tr>
<td>B-2</td>
<td>1 - 5</td>
<td>22</td>
<td>19</td>
<td>3</td>
<td>56</td>
<td>ML</td>
<td>SANDY SILT</td>
</tr>
<tr>
<td>B-3</td>
<td>1.5 - 5</td>
<td>23</td>
<td>17</td>
<td>6</td>
<td>55</td>
<td>CL-ML</td>
<td>SANDY SILTY CLAY</td>
</tr>
<tr>
<td>B-4</td>
<td>0.5 - 5</td>
<td>28</td>
<td>14</td>
<td>14</td>
<td>68</td>
<td>CL</td>
<td>SANDY LEAN CLAY</td>
</tr>
</tbody>
</table>

**Note:** Laboratory tests are not valid if separated from original report.

**Project Number:** 65165171

**Site:** Lower Buckeye Road to Buckeye Road

**Client:** T.Y. Lin International

**Tempo, Arizona**

**Exhibit:** B-2

L.0102030405060

0 20406080100

CL or OLML or OLML

Fines

LIQUID LIMIT

<table>
<thead>
<tr>
<th>Boring ID</th>
<th>Depth</th>
<th>LL</th>
<th>PL</th>
<th>PI</th>
<th>Fines</th>
<th>USCS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>0.5 - 5</td>
<td>27</td>
<td>16</td>
<td>11</td>
<td>60</td>
<td>CL</td>
<td>SANDY LEAN CLAY</td>
</tr>
<tr>
<td>B-2</td>
<td>1 - 5</td>
<td>22</td>
<td>19</td>
<td>3</td>
<td>56</td>
<td>ML</td>
<td>SANDY SILT</td>
</tr>
<tr>
<td>B-3</td>
<td>1.5 - 5</td>
<td>23</td>
<td>17</td>
<td>6</td>
<td>55</td>
<td>CL-ML</td>
<td>SANDY SILTY CLAY</td>
</tr>
<tr>
<td>B-4</td>
<td>0.5 - 5</td>
<td>28</td>
<td>14</td>
<td>14</td>
<td>68</td>
<td>CL</td>
<td>SANDY LEAN CLAY</td>
</tr>
</tbody>
</table>

**Note:** Laboratory tests are not valid if separated from original report.

**Project Number:** 65165171

**Site:** Lower Buckeye Road to Buckeye Road

**Client:** T.Y. Lin International

**Tempo, Arizona**

**Exhibit:** B-2
## Grain Size Distribution

### ASTM D422 / ASTM C136

**Graph:**
- The graph shows the grain size distribution of soil samples, with percent finer by weight on the vertical axis and U.S. sieve opening in inches on the horizontal axis.

**Legend:**
- **COBBLES:**
  - Coarse
  - Fine

- **GRAVEL:**
  - Coarse
  - Medium

- **SAND:**
  - Coarse
  - Fine

- **SILT OR CLAY:**
  - Coarse
  - Fine

**Table:**

<table>
<thead>
<tr>
<th>Boring ID</th>
<th>Depth</th>
<th>USCS Classification</th>
<th>LL</th>
<th>PL</th>
<th>PI</th>
<th>Cc</th>
<th>Cu</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>0.5 - 5</td>
<td>SANDY LEAN CLAY (CL)</td>
<td>27</td>
<td>16</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-2</td>
<td>1 - 5</td>
<td>SANDY SILT (ML)</td>
<td>22</td>
<td>19</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-3</td>
<td>1.5 - 5</td>
<td>SANDY SILTY CLAY (CL-ML)</td>
<td>23</td>
<td>17</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-4</td>
<td>0.5 - 5</td>
<td>SANDY LEAN CLAY (CL)</td>
<td>28</td>
<td>14</td>
<td>14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boring ID</th>
<th>Depth</th>
<th>D&lt;sub&gt;100&lt;/sub&gt;</th>
<th>D&lt;sub&gt;60&lt;/sub&gt;</th>
<th>D&lt;sub&gt;30&lt;/sub&gt;</th>
<th>D&lt;sub&gt;10&lt;/sub&gt;</th>
<th>%Gravel</th>
<th>%Sand</th>
<th>%Fines</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>0.5 - 5</td>
<td>31.5</td>
<td></td>
<td></td>
<td></td>
<td>5.7</td>
<td>33.9</td>
<td>60.4</td>
</tr>
<tr>
<td>B-2</td>
<td>1 - 5</td>
<td>31.5</td>
<td>0.092</td>
<td></td>
<td></td>
<td>8.0</td>
<td>35.8</td>
<td>56.2</td>
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<tr>
<td>B-3</td>
<td>1.5 - 5</td>
<td>31.5</td>
<td>0.096</td>
<td></td>
<td></td>
<td>12.6</td>
<td>32.8</td>
<td>54.6</td>
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<tr>
<td>B-4</td>
<td>0.5 - 5</td>
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<td></td>
<td></td>
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<td>2.0</td>
<td>29.9</td>
<td>68.1</td>
</tr>
</tbody>
</table>

**Project Information:**
- **Project Number:** 65165171
- **Client:** T.Y. Lin International
- **Site:** Lower Buckeye Road to Buckeye Road, Phoenix, Arizona
- **Exhibit:** B-3
### SUMMARY OF GRAIN SIZE DISTRIBUTION

<table>
<thead>
<tr>
<th>Borehole No.</th>
<th>Depth (ft.)</th>
<th>USCS Soil Class.</th>
<th>Atterberg Limits</th>
<th>SILT or CLAY #200</th>
<th>SAND Fine LL</th>
<th>Medium #100</th>
<th>#50</th>
<th>#40</th>
<th>#30</th>
<th>#16</th>
<th>#10</th>
<th>#8</th>
<th>#4</th>
<th>1/4”</th>
<th>3/8”</th>
<th>1/2”</th>
<th>3/4”</th>
<th>1”</th>
<th>1½”</th>
<th>2”</th>
<th>3”</th>
<th>&gt;3”</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>0.5</td>
<td>CL</td>
<td></td>
<td></td>
<td>27</td>
<td>60</td>
<td>71</td>
<td>79</td>
<td>82</td>
<td>86</td>
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<tr>
<td>B-2</td>
<td>1</td>
<td>ML</td>
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<td></td>
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<td>95</td>
<td>96</td>
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<td>100</td>
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</tr>
<tr>
<td>B-3</td>
<td>1.5</td>
<td>CL-ML</td>
<td></td>
<td></td>
<td>23</td>
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<td>100</td>
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<tr>
<td>B-4</td>
<td>0.5</td>
<td>CL</td>
<td></td>
<td></td>
<td>28</td>
<td>68</td>
<td>86</td>
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<td>100</td>
<td>100</td>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

### REMARKS
1.
2.
3.
4.

### PROJECT: 27th Avenue Improvements
**SITE:** Lower Buckeye Road to Buckeye Road  
Phoenix, Arizona

**PROJECT NUMBER:** 65165171

**CLIENT:** T.Y. Lin International  
Tempe, Arizona

**EXHIBIT:** B-4
**PROJECT:** 27th Avenue Improvements  
**LOCATION:** Lower Buckeye Road to Buckeye Road  
**MATERIAL:** Sandy Lean Clay (CL)  
**SAMPLE SOURCE:** B-1 @ 0.5 - 5.0 feet  
**JOB NO:** 65165171  
**WORK ORDER NO:**  
**LAB NO:**  
**DATE SAMPLED:** 10/07/16

### RESISTANCE R-VALUE AND EXPANSION PRESSURE OF COMPACTED SOILS (ASTM D2844)

<table>
<thead>
<tr>
<th>SPECIMEN I. D.</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisture Content</td>
<td>17.2%</td>
<td>15.5%</td>
<td>13.8%</td>
</tr>
<tr>
<td>Compaction Pressure (psi)</td>
<td>*</td>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td>Specimen Height (inches)</td>
<td>2.58</td>
<td>2.55</td>
<td>2.47</td>
</tr>
<tr>
<td>Dry Density (pcf)</td>
<td>112.8</td>
<td>116.3</td>
<td>120.7</td>
</tr>
<tr>
<td>Horiz. Pres. @ 1000lbs (psi)</td>
<td>63.0</td>
<td>55.0</td>
<td>42.0</td>
</tr>
<tr>
<td>Horiz. Pres. @ 2000lbs (psi)</td>
<td>138.0</td>
<td>129.0</td>
<td>104.0</td>
</tr>
<tr>
<td>Displacement</td>
<td>4.93</td>
<td>4.06</td>
<td>3.65</td>
</tr>
<tr>
<td>Expansion Pressure (psi)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Exudation Pressure (psi)</td>
<td>181</td>
<td>274</td>
<td>455</td>
</tr>
<tr>
<td>R Value</td>
<td>8</td>
<td>13</td>
<td>27</td>
</tr>
</tbody>
</table>

* HAND TAMPED

**R Value at 300 PSI = 15**
**PROJECT:** 27th Avenue Improvements  
**JOB NO:** 65165171  
**LOCATION:** Lower Buckeye Road to Buckeye Road  
**WORK ORDER NO:**  
**MATERIAL:** Sandy Silty Clay (CL-ML)  
**LAB NO:**  
**DATE SAMPLED:** 10/07/16  
**SAMPLE SOURCE:** B-3 @ 1.5 - 5.0 feet

### RESISTANCE R-VALUE AND EXPANSION PRESSURE OF COMPACTED SOILS (ASTM D2844)

<table>
<thead>
<tr>
<th>SPECIMEN I. D.</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisture Content</td>
<td>14.4%</td>
<td>12.7%</td>
<td>10.9%</td>
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<tr>
<td>Compaction Pressure (psi)</td>
<td>*</td>
<td>100</td>
<td>350</td>
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<tr>
<td>Specimen Height (inches)</td>
<td>2.50</td>
<td>2.47</td>
<td>2.41</td>
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<tr>
<td>Dry Density (pcf)</td>
<td>119.2</td>
<td>122.9</td>
<td>128.8</td>
</tr>
<tr>
<td>Horiz. Pres. @ 1000lbs (psi)</td>
<td>64.0</td>
<td>52.0</td>
<td>26.0</td>
</tr>
<tr>
<td>Horiz. Pres. @ 2000lbs (psi)</td>
<td>138.0</td>
<td>118.0</td>
<td>59.0</td>
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<tr>
<td>Displacement</td>
<td>4.12</td>
<td>3.98</td>
<td>3.68</td>
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<tr>
<td>Expansion Pressure (psi)</td>
<td>0.0</td>
<td>0.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Exudation Pressure (psi)</td>
<td>161</td>
<td>301</td>
<td>485</td>
</tr>
<tr>
<td>R Value</td>
<td>9</td>
<td>18</td>
<td>52</td>
</tr>
<tr>
<td>* HAND TAMPED</td>
<td></td>
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</tr>
</tbody>
</table>

![Graph](image)

* R Value at 300 PSI = 18

**EXHIBIT:** B-6
MOISTURE-DENSITY RELATIONSHIP
ASTM D698/D1557

Source of Material
Description of Material
Remarks:

Test Method
ASTM D698 Method A

TEST RESULTS

Maximum Dry Density 116.5 PCF
Optimum Water Content 13.2 %
Percent Fines 56.2 %

ATTERBERG LIMITS

<table>
<thead>
<tr>
<th>LL</th>
<th>PL</th>
<th>PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>19</td>
<td>3</td>
</tr>
</tbody>
</table>
APPENDIX C

DESIGN RESILIENT MODULUS ANALYSIS
Design Resilient Modulus Analysis

**Project Data**

**PROJECT NAME, LOCATION and SEASONAL VARIATION FACTOR**

- **Project Name:** Lower Buckeye Road to Buckeye Road
- **Location:** Lower Buckeye Road to Buckeye Road
- **Seasonal Variation Factor:** 1.0

**Laboratory Test Data**

<table>
<thead>
<tr>
<th>Boring No.</th>
<th>Boring Location</th>
<th>Depth (ft)</th>
<th>LL</th>
<th>PI</th>
<th>#200</th>
<th>Laboratory R-Value</th>
<th>Correlated R-Value</th>
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<tbody>
<tr>
<td>B-1</td>
<td></td>
<td>0.3</td>
<td>27</td>
<td>11</td>
<td>60</td>
<td>15</td>
<td>28.4</td>
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<tr>
<td>B-2</td>
<td></td>
<td>1</td>
<td>22</td>
<td>3</td>
<td>56</td>
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<td>41.0</td>
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<tr>
<td>B-2</td>
<td></td>
<td>1.5</td>
<td>23</td>
<td>6</td>
<td>55</td>
<td>18</td>
<td>37.0</td>
</tr>
<tr>
<td>B-4</td>
<td></td>
<td>0.3</td>
<td>28</td>
<td>14</td>
<td>68</td>
<td></td>
<td>22.6</td>
</tr>
</tbody>
</table>

**Mean R-Value and Modulus Calculations**

- **Number of Laboratory Tested R-Values:** 2 (N_t)
- **Average of Laboratory Tested R-Value Results:** 16.50 (R_t)
- **Standard Deviation of Laboratory Tested R-Values:** 2.12 (SD_t)
- **Number of Correlated R-Value:** 4 (N_c)
- **Average of Correlated R-Value Results:** 32.24 (R_c)
- **Standard Deviation of Correlated R-Values:** 8.32 (SD_c)
- **Adjusted Average of Correlated R-Values:** 32.24 (R_c)

\[
R_{\text{mean}} = \frac{N_t \times R_t \times SD_t^2 + N_c \times R_c \times SD_c^2}{N_t \times SD_t^2 + N_c \times SD_c^2}
\]

\[
R_{\text{mean}} = \frac{16.50 \times 2.12^2 + 8 \times 32.24 \times 8.32^2}{16.50 \times 2.12^2 + 8 \times 8.32^2} = 18.3
\]

**Seasonal Variation Factor for Project Location:** 1.0

**Design Resilient Modulus M (adjusted for SVF):**

\[
M = \frac{11.234}{1.0} = 11.234 \text{ psi}
\]
PROPOSAL to the City Engineer of the City of Phoenix.

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

__________________________________________
(Print or Type Contractor Name)

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 will 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.

No proposal may be withdrawn for a period of 50 days after opening without consent of the Contracting Agency through the body or agent duly authorized to accept or reject the proposal except in the case of federally-assisted projects.

Understands that his proposal will 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 will be completed within 360 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 will acknowledge all addenda in writing. By writing the addendum number(s) below, the bidder agrees that this proposal is computed with consideration of the specification book(s) plus any addenda.

<table>
<thead>
<tr>
<th>ADDENDUM NO.</th>
<th>DATE</th>
<th>ADDENDUM NO.</th>
<th>DATE</th>
</tr>
</thead>
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P. - 1
City of Phoenix  
BID PROPOSAL  

Project No: ST85100341  
27th Avenue: Lower Buckeye to Buckeye Road  

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&quot;Allowance For Stormwater Pollution Prevention Best Management Practices (BMP'S)&quot;</td>
<td>Job</td>
<td>1.00</td>
<td>$25,000.00</td>
<td>$25,000.00</td>
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<tr>
<td>2</td>
<td>Allowance for Extra Work</td>
<td>Job</td>
<td>1.00</td>
<td>$350,000.00</td>
<td>$350,000.00</td>
</tr>
<tr>
<td>3</td>
<td>Clearing and Grubbing</td>
<td>Lump Sum</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>4</td>
<td>Subgrade Preparation</td>
<td>Sq. Yd.</td>
<td>36,434.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>5</td>
<td>Asphalt Concrete Surface Course, Type D 1/2 For Driveway, Sidewalk and Parking Lot Connections</td>
<td>Ton</td>
<td>163.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>6</td>
<td>Asphalt Concrete Surface Course, Type D 1/2, 1-1/2&quot; Thick</td>
<td>Ton</td>
<td>3,279.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>7</td>
<td>Asphalt Concrete Base Course, Type A 1-1/2, 3&quot; Thick</td>
<td>Ton</td>
<td>13,120.00</td>
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<td>$</td>
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<tr>
<td>8</td>
<td>Portland Cement Concrete Pavement, Class A, 9&quot; Thick</td>
<td>Sq. Yd.</td>
<td>385.00</td>
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<td>$</td>
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<tr>
<td>9</td>
<td>Emulsified Asphalt For Tack Coat, Type SS-1h</td>
<td>Ton</td>
<td>19.20</td>
<td>$</td>
<td>$</td>
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<tr>
<td>Item No.</td>
<td>Description</td>
<td>Unit</td>
<td>Quantity</td>
<td>Unit Price</td>
<td>Total</td>
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<tr>
<td>---------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------</td>
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<td>-------</td>
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<tr>
<td>10</td>
<td>M3304100 Power Broom</td>
<td>Hour</td>
<td>8.00</td>
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<td>$</td>
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<td>11</td>
<td>M3400400 Concrete Sidewalk, Std. Detail P-1230</td>
<td>Sq. Ft.</td>
<td>29,464.00</td>
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<td>12</td>
<td>M3400415 Truncated Domes for Sidewalk Ramps Std. Detail P-1232</td>
<td>Sq. Ft.</td>
<td>228.00</td>
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<td>13</td>
<td>M3400543 Concrete Driveway Entrance, Std. Detail P-1243</td>
<td>Sq. Ft.</td>
<td>1,784.00</td>
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<td>14</td>
<td>M3400555 Concrete Driveway Entrance, Std. Detail P-1255-1</td>
<td>Sq. Ft.</td>
<td>8,325.00</td>
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<td>15</td>
<td>M3400558 Concrete Driveway Entrance, Std. Detail P-1255-3, (9&quot; Thick)</td>
<td>Sq. Ft.</td>
<td>141.00</td>
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<td>16</td>
<td>M3400566 Concrete Driveway Entrance, Standard Detail P-1255-2 (9&quot; Thick)</td>
<td>Sq. Ft.</td>
<td>2,190.00</td>
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<td>17</td>
<td>M3401260 Concrete Bus Shelter/Accessory Pad, Std. Detail P-1260</td>
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<td>1,960.00</td>
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<td>M3402201 Combined Concrete Curb and Gutter, Std. Detail 220, Type &quot;A&quot;, H=6&quot;</td>
<td>Lin. Ft.</td>
<td>6,637.00</td>
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<td>M3402203 Concrete Roll Curb and Gutter, Standard Detail 220, Type &quot;C&quot;</td>
<td>Lin. Ft.</td>
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<td>Item No.</td>
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<td>Quantity</td>
<td>Unit Price</td>
<td>Total</td>
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<tr>
<td>20</td>
<td>Concrete Single Curb, Std. Detail 222, Type &quot;A&quot;</td>
<td>Lin. Ft.</td>
<td>722.00</td>
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<tr>
<td>21</td>
<td>Adjust Existing Manhole Frame and Cover, MAG Std Detail 422</td>
<td>Each</td>
<td>18.00</td>
<td>$</td>
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<tr>
<td>22</td>
<td>Rebuild Manhole Grade Adjustment</td>
<td>Each</td>
<td>2.00</td>
<td>$</td>
<td>$</td>
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<td>23</td>
<td>Adjust Existing Utility Frame and Cover, Manhole or Utility Riser</td>
<td>Each</td>
<td>19.00</td>
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<tr>
<td>24</td>
<td>Adjust Existing Sewer Clean-out Frame &amp; Cover, Standard Detail P-1270</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>25</td>
<td>Adjust Existing Type &quot;A&quot; Water Valve, Standard Detail P-1391 and P-1391-1</td>
<td>Each</td>
<td>29.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>26</td>
<td>Remove Existing Manhole</td>
<td>Each</td>
<td>3.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>27</td>
<td>Remove Portland Cement Concrete Single Curb; Curb and Gutter, Header Curb or Embankment Curb</td>
<td>Lin. Ft.</td>
<td>1,586.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>28</td>
<td>Remove Portland Cement Concrete Sidewalk, Driveway, Valley Gutter &amp; Slab</td>
<td>Sq. Ft.</td>
<td>6,852.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>29</td>
<td>Remove Structures, Backfill &amp; Compact</td>
<td>Job</td>
<td>3.00</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>
## City of Phoenix
### BID PROPOSAL

**Project No:** ST85100341  
**27th Avenue: Lower Buckeye to Buckeye Road**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 M3500035</td>
<td>Remove Existing Catch Basin, Manhole, and Sump; Backfill and Compact</td>
<td>Job</td>
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<tr>
<td>31 M3500040</td>
<td>Remove Pipe, Backfill &amp; Compact</td>
<td>Lin. Ft.</td>
<td>1,915.00</td>
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<td>$</td>
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<tr>
<td>32 M3500060</td>
<td>Remove Asphalt Concrete Pavement</td>
<td>Sq. Yd.</td>
<td>35,810.00</td>
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<tr>
<td>33 M3500109</td>
<td>Remove Block Wall</td>
<td>Lin. Ft.</td>
<td>132.00</td>
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<tr>
<td>34 M3500150</td>
<td>Remove Tree, 12” Diam. and Larger</td>
<td>Each</td>
<td>14.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>35 M3500200</td>
<td>Remove and Salvage Existing Overhead Sign Structure</td>
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<tr>
<td>36 M3500300</td>
<td>Miscellaneous Removal and Other Work</td>
<td>Job</td>
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<td>$</td>
<td>$</td>
</tr>
<tr>
<td>37 M3500402</td>
<td>Relocate Traffic Sign</td>
<td>Each</td>
<td>4.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>38 M3505000</td>
<td>Relocate Existing Mailbox</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>39 M3513120</td>
<td>2” PVC Electrical Conduit</td>
<td>Lin. Ft.</td>
<td>65.00</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>
## City of Phoenix
### BID PROPOSAL
### Project No: ST85100341
### 27th Avenue: Lower Buckeye to Buckeye Road

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>2-1/2” SCH 40 PVC Conduit</td>
<td>Lin. Ft.</td>
<td>1,340.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>41</td>
<td>L.E.D. Street Luminaire (97 W, Remove and Replace Existing Luminaire)</td>
<td>Each</td>
<td>3.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>42</td>
<td>L.E.D. Street Luminaire (149 W, Remove and Replace Existing Luminaire)</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>43</td>
<td>Furnish and Install Street Light Per C.O. P. Street Lighting Procedures, Standards and Specifications Manual, latest edition.</td>
<td>Each</td>
<td>27.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>44</td>
<td>Remove Existing Light Poles Standard, Per Plan</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>46</td>
<td>Relocate Ornamental Iron Fence</td>
<td>Lin. Ft.</td>
<td>343.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>47</td>
<td>Traffic Control Devices</td>
<td>Job</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>48</td>
<td>Allowance for Uniformed, Off-duty Law Enforcement Officer</td>
<td>Job</td>
<td>1.00</td>
<td>$50,000.00</td>
<td>$50,000.00</td>
</tr>
<tr>
<td>49</td>
<td>Survey Marker, MAG Standard Det. 120 -1, Type &quot;A&quot;</td>
<td>Each</td>
<td>4.00</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>
City of Phoenix  
BID PROPOSAL  

Project No: ST85100341  
27th Avenue: Lower Buckeye to Buckeye Road

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>M4154001 Safety Post / Bollard</td>
<td>Each</td>
<td>4.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>51</td>
<td>M4200019 16' Wide Double Swing Chain Link Gate, 72&quot; High, ADOT Det. C-12.20</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>52</td>
<td>M4200028 Chain Link Gate, ADOT Detail C-12.20 (26' Wide, Double Swing Gate, 72&quot; High, Type 2)</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>53</td>
<td>M4200029 Chain Link Gate, ADOT Detail C-12.20 (5' Wide Single Swing Gate, 72&quot; High, Type 2)</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>54</td>
<td>M4200075 Chain Link Fence, ADOT Detail C-12.20, Type 2, H=6'</td>
<td>Lin. Ft.</td>
<td>114.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>55</td>
<td>M4200134 Relocate Manual Roll / Slide Wrought Iron Gate</td>
<td>Each</td>
<td>2.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>56</td>
<td>M4200135 Relocate Motorized Slide Wrought Iron Gate</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>57</td>
<td>M4200136 Relocate Manual Roll / Slide Chain Link Gate</td>
<td>Each</td>
<td>2.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>58</td>
<td>M4200137 Remove and Relocate Steel Pipe Swing Gate</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>59</td>
<td>M4201002 Relocate Chain Link Fence Per Plans</td>
<td>Lin. Ft.</td>
<td>1,077.00</td>
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</tr>
<tr>
<td>Item No.</td>
<td>Description</td>
<td>Unit</td>
<td>Quantity</td>
<td>Unit Price</td>
<td>Total</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>------------</td>
<td>-------</td>
</tr>
<tr>
<td>60</td>
<td>Boulder Relocation</td>
<td>Each</td>
<td>2.00</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>Decomposed Granite, 3/8&quot; Minus, Stabilized, 2&quot; Thick</td>
<td>Sq. Ft.</td>
<td>41,887.00</td>
<td>$</td>
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<tr>
<td>62</td>
<td>Traffic Signal, No. 5 Junction Box</td>
<td>Each</td>
<td>6.00</td>
<td>$</td>
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</tr>
<tr>
<td>63</td>
<td>Traffic Signal, No. 7 Junction Box</td>
<td>Each</td>
<td>2.00</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>Foundation for Type A Signal Pole</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>Foundation for Type LM Signal Pole</td>
<td>Each</td>
<td>8.00</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>Foundation for Type SM Signal Pole</td>
<td>Each</td>
<td>2.00</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>Foundation for Type SR Signal Pole</td>
<td>Each</td>
<td>6.00</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>Foundation for Power Pedestal</td>
<td>Each</td>
<td>3.00</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>Foundation for Controller Cabinet</td>
<td>Each</td>
<td>3.00</td>
<td>$</td>
<td></td>
</tr>
</tbody>
</table>
# City of Phoenix
## BID PROPOSAL
### Project No: ST85100341
#### 27th Avenue: Lower Buckeye to Buckeye Road

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>M4751001 Electrical Power Service Pedestal Cabinet (120/240 Volt) (Meyers MEUGL-W/TB)</td>
<td>Each</td>
<td>3.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>71</td>
<td>M5051530 Concrete Catch Basin, Type &quot;M-1, L=3- Ft&quot; Phx. Supp. Detail P-1569-1</td>
<td>Each</td>
<td>12.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>72</td>
<td>M5051535 Concrete Catch Basin, Type &quot;M-1, L=6- Ft&quot; Phx. Supp. Detail P-1569-1</td>
<td>Each</td>
<td>6.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>73</td>
<td>M5055043 Irrigation Junction Box, MAG Standard Detail 504, Per Plans</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>74</td>
<td>M5100017 Block Wall (Decorative Retaining Wall, Match Existing)</td>
<td>Lin. Ft.</td>
<td>15.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>75</td>
<td>M6014900 Trenching For Street Light Circuit</td>
<td>Lin. Ft.</td>
<td>6,630.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>76</td>
<td>M6100122 1-1/2&quot; and 2&quot; Water Service Replacement Per Special Provisions (Contingent Item)</td>
<td>Lin. Ft.</td>
<td>100.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>77</td>
<td>M6101801 Relocate Existing Water Meter, Box, and Cover</td>
<td>Each</td>
<td>10.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>78</td>
<td>M6103706 Waterline Realignment, 6&quot; and 8&quot;, Contingent Item</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>79</td>
<td>M6103710 Waterline Realignment, 10&quot; and 12&quot;, Contingent Item</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>
## City of Phoenix
### BID PROPOSAL
### Project No: ST85100341
### 27th Avenue: Lower Buckeye to Buckeye Road

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<th>Unit Price</th>
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<tbody>
<tr>
<td>80</td>
<td>M6108010 Relocate Fire Hydrant</td>
<td>Each</td>
<td>3.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>81</td>
<td>M6180623 Storm Sewer Lateral Pipe Connection, Special Detail 1577</td>
<td>Each</td>
<td>10.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>82</td>
<td>M6181012 12&quot; Catch Basin Connector Pipe</td>
<td>Lin. Ft.</td>
<td>180.00</td>
<td>$</td>
<td>$</td>
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<tr>
<td>83</td>
<td>M6181015 15&quot; Catch Basin Connector Pipe</td>
<td>Lin. Ft.</td>
<td>446.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>84</td>
<td>M6185018 18&quot; Rubber Gasket Reinforced Concrete Pipe, Class V (Private Irrigation)</td>
<td>Lin. Ft.</td>
<td>429.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>85</td>
<td>M6250016 Storm Sewer Manhole Base Transition, Phx. Supp. Detail P-1560 and MAG Std. Detail 522 and 423</td>
<td>Each</td>
<td>4.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>86</td>
<td>M6309065 Debris Cap including Locator Coil, Furnished by City of Phoenix, Install</td>
<td>Each</td>
<td>50.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>87</td>
<td>M9011001 Wireless Network Radio</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>88</td>
<td>M9021001 PTZ CCTV Camera</td>
<td>Each</td>
<td>3.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>89</td>
<td>S5051520 Manhole (SRVWUA Irrigation) Per Plans (Contingent)</td>
<td>Each</td>
<td>1.00</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>
## City of Phoenix
### BID PROPOSAL

**Project No:** ST85100341  
**27th Avenue: Lower Buckeye to Buckeye Road**

<table>
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<tr>
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<th>Quantity</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>Concrete Pipe Collars, All Sizes (SRVWUA Details) (Contingent)</td>
<td>Each</td>
<td>2.00</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>91</td>
<td>30&quot; R.G.R.C.P. (SRVWUA Irrigation) Class V (Contingent)</td>
<td>Lin. Ft.</td>
<td>610.00</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

**TOTAL BASE BID**

$__________________________ and ________________________/100

**TOTAL WRITTEN IN WORDS**
PROPOSAL SUBMITTAL

PROJECT TITLE: 27th Avenue - Lower Buckeye Road to Buckeye Road
Roadway Improvement
PROJECT NO.: ST85100341

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

FIRM

ADDRESS

CITY STATE ZIP CODE

PHONE VENDOR NO.

BY Officer and Title (signature)

Officer and Title (print or type)

Date

WITNESS: If Contractor is an individual (signature)

ATTEST: If Contractor is Corporation or Partnership (signature and title)
SURETY BOND

Project No.: ST85100341

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 27th Avenue – Lower Buckeye Road to Buckeye Road Roadway Improvement ________________________________

____________________________

NOW, THEREFORE, if the City of Phoenix will accept the proposal of the Principal and the Principal will 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 will 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 will be null and void, otherwise to remain in full force and effect.

Signed and sealed this ______ day of ________________________________, A.D., 2018

____________________________

Principal

____________________________

Title

____________________________

Mailing Address

____________________________

Surety

WITNESS:

____________________________

A.M. BEST RATING:
SBE – DESIGN BID BUILD (DBB) CONTRACT CLAUSE

PROJECT #: ST85100341  CONTRACT #: TBD

PROJECT NAME: 27th Avenue: Lower Buckeye Road to Buckeye Road Major Street Improvement

The City of Phoenix Small Business Enterprise Program (SBE) is managed and administered by the Equal Opportunity Department, Contract Compliance Division. Phoenix is one of the fastest growing, multicultural cities in the country and has shown a historical commitment to business diversity. The City strives to advance the economic growth of businesses through its Small Business Enterprise (SBE) Program.

Through a coordinated effort among several city departments, the SBE Program provides SBE certification, procurement opportunities, construction subcontracting utilization, small business management and technical assistance and educational services and networking opportunities.

The Small Business Enterprise (SBE) participation goal for this project is as follows:

SBE Required Goal = 18%

An annual SBE subcontracting participation goal of 18% has been established under this Contract. The Prime Contractor is required to demonstrate good faith efforts to utilize certified SBE firms to achieve this goal during the life of this contract.

For purposes of determining the Contractor’s actual SBE utilization during and at the end of the project, the Contractor shall meet or exceed their Proposed SBE Goal Percentage (as indicated on the Submitter’s received SBE Utilization Form with their bid submittal) for the contract, for ALL work performed on the project, including any amount paid for contingencies and allowances, and selected alternates. The Proposed Goal shall meet/or exceed the Required Goal.

For purposes of calculating the Contractor’s “Proposed SBE Goal Percentage” on the Contractor’s Statement of Proposed SBE Utilization form, bidders must not propose SBE subcontractors from areas identified on the bid form as contingencies and allowances or proposed alternates. Any SBE participation proposed from these areas will be not counted towards meeting the SBE goal requirement necessary for contract award.

The “Total Bid” shall be defined as the total of all the unit prices, or the lump sum total, including alternates and contingencies and allowances. The “Base Bid” shall be defined as the “Total Bid” minus “all proposed alternates” as determined by the project manager. Any additional dollars paid under this contract, including any selected alternate(s), shall be subject to the Proposed SBE Goal Percentage listed on the Contractor’s Statement of Proposed SBE Utilization form.
SBE PROGRAM DEFINITIONS

Broker, Packager, Manufacturers’ Representative, or Jobber means a firm that is not a manufacturer or regular dealer as defined herein.

Commercially Useful Function (CUF) means that a SBE firm is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. A SBE must perform at least 75% of the total cost of its contract with its own work force in order to be determined to be performing a CUF on the contract.

Contract is a written agreement obligating the seller or business enterprise to furnish goods or services as submitted and the Purchaser or Buyer to pay for such goods or services.

Contractor is an individual, partnership, joint venture, corporation or firm that executes a contract with the City to perform services requested by a solicitation or procurement. The Contractor may be direct or through an authorized representative.

Joint Venture (JV) is an association between two or more persons, partnerships, corporations, or any combination thereof, formed to carry on a single business activity. The JV is limited in scope and duration to this contract. The resources, assets and labor of the participants must be combined in an effort to accrue profit.

Manufacturer means a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract.

Purchaser for purposes of this contract means the City.

Regular Dealer or Supplier means a business that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. The firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.

Small Business Enterprise (SBE) means a small business that has been determined to meet the requirements for SBE certification with the City of Phoenix and whose certification is in force at the time of the award of business by the City. A directory of currently certified SBE firm is located at https://phoenix.diversitycompliance.com.

Subcontract a contract at any tier below the prime contract, including purchase orders.

Subcontractor is an individual, partnership, joint venture, corporation or firm that holds a contract at any tier below the prime contract, including purchase orders.

Successful Submitter is a Submitter who has been selected to perform services requested by a solicitation or procurement.
SECTION I. SBE CERTIFIED FIRMS

Only firms certified by the City of Phoenix under Chapter 18, Article VIII of the Phoenix city code are eligible to fulfill the participation goal stated above. A firm’s certification must be in the trade areas listed on the proposed utilization form and current and in force at the date and time of the bid opening deadline.

The most current electronic directory of all certified SBE firms can be accessed at: https://phoenix.diversitycompliance.com

If you need to verify certification status, please contact the Equal Opportunity Department at (602) 262-6790 and identify yourself as a prime contractor bidding on this project. Prime contractors should verify that the certifications of the SBE firms are current prior to bid opening. If a firm’s certification expires and is not renewed prior to the bid-opening deadline, that firm will be ineligible to satisfy the goal.

SECTION II. SBE BID PROCEDURES

The bid envelope shall contain all information and documents related to the SBE requirements of this section. Failure to properly complete the “Contractor’s Statement of Proposed SBE Utilization” and “Letter of Intent to Perform as a Subcontractor/Supplier” forms, or submit a fully documented waiver request as described below, will result in bid rejection. The required documentation includes:

1. A Contractor’s Statement of Proposed SBE Utilization - The form shall document the name of each SBE firm that will be awarded a subcontract; services to be performed by each subcontractor; dollar amount to be paid for those services; and the total dollar amount that is being proposed in SBE participation.

2. A Letter of Intent to Perform as a SBE Subcontractor/Supplier (required for each SBE subcontractor/supplier proposed) The form shall be completed by the SBE firm that will be awarded the subcontract. The form documents services to be performed by the subcontractor/supplier and the total dollar amount of the subcontract that will be awarded to the SBE. Only the services performed in the area(s) described by the SBE’s certification description can be counted towards the SBE goal requirement.

The bidder’s proposed utilization of SBE firms to fulfill the participation goal must be submitted on the “Contractor’s Statement of Proposed SBE Utilization” form included in the specification packet. Additionally, each of the SBE subcontractors/suppliers the bidder is proposing to use to meet the goal requirement on this contract must complete the “Letter of Intent to Perform as an SBE Subcontractor/Supplier” (LOI) form. Both forms must be completed and submitted as part of the bid packet by the bid-opening deadline.
Failure to submit a completed “Contractor’s Statement of Proposed SBE Utilization” and signed “Letter of Intent to Perform as an SBE Subcontractor/Supplier” form for each of the proposed SBE firms will result in a bidder being declared non-responsive to the requirements of these specifications and the bid will not be considered. The forms must contain the following:

1. The Certified SBE firm name and the certified trade or services to be performed.
2. The dollar amount of the proposed subcontract to be awarded to each SBE firm.
3. The total dollar amount of all SBE proposed subcontracts.

In instances where an exact dollar amount to be subcontracted with a SBE firm cannot be determined, the bidder shall indicate on Columns 3 and 4 of Part B Section 1 of the “Letter of Intent To Perform as a SBE Subcontractor/Supplier” form the minimum guaranteed hours/units and dollar amount that will be paid to the SBE firm. This situation applies only when a Contractor proposes to utilize a SBE firm that engages in work related to a broker, supplier or; a bid that is based on a per hour charge as in hauling/trucking or construction site security. Please note that this exception does not permit the Prime contractor to complete or modify any other part of the LOI document. Both, the SBE and the bidder must sign the LOI document prior to bid submittal. By signing the document, the bidder affirms that it has not altered or modified the document in any way other than, if applicable, entering the Unit/Hours and Total Quote Amount in Part B SECTION 1.

If a bidder proposes to utilize a firm not certified by the City of Phoenix and/or not certified in the proposed scope of work at the time of bid, the proposed utilization amount for that firm will be deducted from the total proposed SBE utilization amount used for determining if the bidder is responsive to the requirements of this section. Bidder shall not include any amount the SBE firm has indicated in the LOI document as work it will sublet or is not covered in their certification description in the Contractor’s Statement of Proposed SBE Utilization form. Only amounts associated with the work to be performed by the SBE, and indicated in the SBE’s certification description, may be counted towards the SBE participation goal requirement of this section.

If the reduced proposed SBE utilization is insufficient to meet the established participation goal required for this contract, and no waiver documentation has been submitted, the bidder shall be determined to be non-responsive to the requirements of this section and the bid will not be considered.

A certified SBE firm bidding as a Prime Contractor cannot count the work it will self-perform towards meeting the required SBE subcontracting goal.

A “Letter of Intent to Perform as a Subcontractor/Supplier” will be used in determining compliance with the requirements of this section. The proposed subcontract dollar amount listed for each SBE firm on the “Contractor’s Statement of Proposed SBE Utilization” must match the SBE dollar amount indicated in the boxed areas in Parts C, D or E of the signed “Letter of Intent to Perform as a Subcontractor/Supplier.” Failure to submit a completed LOI document with the SBE’s and bidder’s signatures shall be determined to be non-responsive to the requirements of this section and the bid will not be considered.
SECTION III. IF THE BIDDER IS UNABLE TO MEET THE GOAL

A fully documented waiver request detailing why the bidder has been unable to meet the SBE utilization goal in whole, or in part, and the “good faith” effort of the bidder to obtain SBE participation. In order to be viewed as good faith efforts, a bidder’s activities must be consistent with all activities that could reasonably be expected from a bidder who was actively and aggressively seeking to meet the SBE goal. To show proof of having exercised good faith efforts in trying to obtain bids from SBE firms to meet the utilization goals. The following factors are illustrative of those matters that shall be considered when judging whether the bidder made “good faith efforts”.

1. A cover letter addressed to the Street Transportation Procurement Section clearly indicating whether a full or partial waiver is being requested, the percentage to be waived, and the reasons the waiver is being sought.

2. If a partial waiver is being requested, a Bidder’s Statement of Proposed Utilization listing firms that will satisfy the portion of the goal that will be met must be included with the bid proposal. Additionally, a Letter of Intent to Perform as a Subcontractor/Supplier from each SBE firm that is proposed to be utilized must be included with the bid proposal.

3. Proof of contact with SBE firms, including but not limited to, fax logs, telephone logs, mail receipts, etc, including documentation of the number of times that firms were contacted, the dates of contact, and the name, phone number, fax number, and address of the contact person associated with each SBE firm. Solicitation of SBE subcontractors must be consistent with the solicitation of all subcontractors and must clearly demonstrate that SBE firms had sufficient time to submit an effective response.

4. Copies of the documents submitted to all subcontractors requesting their bid. This should include the scope of work to be bid and performed on the project.

5. Copies of bid responses/quotes from all subcontractors who bid to perform work on the project in the areas that SBE firms were also bidding on, including information as to why SBE bids were not considered.

6. Documentation that shows efforts made to provide assistance to SBE firms in the areas of bonding, insurance, or other contracting requirements.

7. Documentation of attendance at the pre-bid conference held for the project.

8. Documentation of contact made with City personnel seeking assistance in identifying eligible SBE firms for contracting opportunities on the project.
SECTION IV.  SBE WAIVER PROCEDURES

Requests for a partial or full waiver of the SBE goal for the project including all Good Faith Documentation shall be submitted as part of the bid packet. The request will be reviewed to ensure compliance with the requirements of this section. If the request is determined to meet the requirements, a waiver hearing will be scheduled and the bidder notified of the date, time, and place of the hearing. All waiver hearings are open to the public. However, only the designated representative for the contractor and City staff may participate in the proceedings.

The contractor requesting the waiver may appear at the hearing to present their request and answer questions from the Waiver Review Committee regarding their submittal. The Committee will consider the information and documentation that was submitted at the time of bid. The bidder may not present additional or new information at the hearing. At the conclusion of the hearing process the Committee will make independent recommendations on the request for waiver. The presiding officer, on behalf of the Committee, will provide a written summary of the Committee’s recommendations to the City Manager’s designee, the City Engineer. The City Engineer will make the final decision to grant or deny the waiver request. The City Engineer’s decisions shall be final. The City will notify the contractor regarding the final decision of the City Engineer.

If a partial or full waiver of the SBE goal is granted to a bidder, the bidder shall be considered to have met the project goals and their bid will be considered responsive to the requirements of this section. If a waiver is denied, the bidder is deemed non-compliant and non-responsive to the requirements of this section and their bid will not be considered.

Failure to submit the Contractor’s Statement of Proposed SBE Utilization form and a LOI from each SBE firm proposed OR a fully documented waiver request at the time of bid will be cause to determine the bidder non-responsive to the requirements of this section.
SECTION V. LIMITATION OF THE USE OF SUPPLIERS AND BROKERS TO FULFILL THE SBE GOAL

Proposed expenditures to brokers and suppliers can be used to meet the utilization goal, provided that the combined applicable expenditures do not exceed 25 percent (25%) of the total SBE goal requirement. Contractors may count one hundred percent (100%) of the dollars proposed to be paid to a SBE supplier, and all costs associated with fees and commission to be paid to a SBE broker, up to the 25% limitation.

Supplier (or Wholesaler) is defined as firm that does not directly manufacture the product being supplied and has an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A supplier is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

EXAMPLE: An SBE goal of 5% has been established on a project where the contractor has submitted a base bid of $1,000,000. This results in a dollar goal of $50,000 to be subcontracted to SBE's. The contractor proposes to contract with a SBE supplier for $100,000. Only $12,500, or 25 percent (25%), may be counted towards achievement of the SBE goal for this project. The remaining $37,500 must be achieved through the use of firms that are not suppliers or brokers.

Broker is defined as firm that arranges or expedites services or transactions through the use of individuals not directly employed by the company. Brokers are not regular suppliers. Only costs associated with the fees and commission paid to the certified firm for providing such services may be applied towards the SBE contract goal.

The following defines the expenditures to SBE firms that are NOT subject to the 25% limitation. The following expenditures may be counted in their entirety towards fulfilling 100% of the utilization goal:

1. Expenditures to certified SBE firms that operate and maintain an establishment or factory to produce, on the premises, the materials or supplies purchased for the contract.
2. Expenditures to a certified SBE fabricator that operates and maintains a factory to substantially alter materials or supplies before resale.
3. Expenditures, including fees and commissions, charged to provide bona fide technical and professional personnel recruitment for the contract. The total cost paid that shall be comparable to the industry standards customarily charged for the same or similar services.
4. Expenditures, including fees and commissions, charged for providing bonds and insurance specifically required for the performance of the contract. The total cost shall be comparable to the industry standards charged for the same or similar services.
All SBE firms proposed to participate on this contract opportunity must be SBE certified by the City of Phoenix prior to the date and time of the bid.

Participation on the contract will be calculated based on that portion (dollar value) of the contract that the SBE actually performs with its own forces. This includes the cost of supplies and materials obtained by the SBE for the work on the contract, except in cases when; it has been determined by the City not to be part of the firm’s certification description; the SBE is certified as a “placer”, “finisher”, or “installer” of those materials only, or when the supplies and/or equipment it uses to perform its work is purchased or leased from the Contractor or its affiliate.

**Special emphasis and care should be taken to ensure that the following types of participation are handled properly when preparing your bid packet, as failure to correctly calculate the allowable SBE participation in the following areas shall result in your bid being declared non-responsive if the SBE goal requirement is not met:**

**Fees & Commissions:** SBE firms that supply a bona fide service for a fee or commission may be counted only to the extent of the fees or commissions charged by the SBE. This includes, but is not limited to, providing professional, technical, consultant, or managerial services, and bonds or insurance specifically required for the performance of a contract. Fees must be reasonable, not excessive, compared to fees customary for similar services.

*EXAMPLE:* A SBE firm that supplies uniformed officers for security or traffic control may count only the amounts charged as a commission. The hourly amount paid to the officers may not be counted. If the “per hour” bid amount to the prime contractor is $35, and $25 per hour will be paid to the officers, only $10 per hour can be counted towards achieving the SBE goal. If the firm or bidder estimates that there will be 200 hours of work bid at a rate of $35 per hour, only $2,000 of the total $7,000 bid could be counted.

**Trucking & Hauling:** The amount of a trucking/hauling subcontract that may be counted towards the utilization requirements may be limited. An SBE must itself own and operate at least one fully licensed, insured, and operational truck that will be used on the contract. In addition, trucks the SBE leases without drivers under a long-term leasing agreement may be considered part of the trucking firm’s workforce and counted in full, provided the leasing agreement(s) is/are for a period of not less than 6 months and; the leased vehicles have been recorded with the City’s Equal Opportunity Department’s Certification Office prior to the submittal of the LOI document.

*EXAMPLE:* A SBE trucking firm uses seven trucks on a job; two are owned by the SBE and five are leased from other firms. If two of the five trucks are leased without drivers and the remaining three are leased with drivers from another firm, then the amount paid to the SBE for the services provided by the trucks it owns and the two it leases without drivers and operates with its own employees can be counted in full towards meeting the SBE requirements. The Contractor may not count any portion of the amount the SBE receives for the two trucks it leases with drivers towards the SBE utilization goal.
SECTION VI.  POST AWARD SBE COMPLIANCE INFORMATION - DBB

Submittal of a bid to the City of Phoenix shall constitute an agreement by the bidder to comply with the SBE utilization requirements of this section should the bidder be awarded a contract. This includes, but is not limited to, the following compliance activities:

1. The contractor shall contract, or attempt to contract, in good faith with all SBE firms listed on the Bidder’s Statement of Proposed SBE Utilization form submitted with their bid. The subcontract shall be for an amount that is equal to, or greater than, the total proposed dollar amount listed on the form, with the exception of instances where the City changes a scope of work in the contract that would reduce the available work in the subcontractor’s area of performance.

2. The contractor shall not reduce any of the proposed SBE scopes of work or amounts indicated on the Bidder’s Statement of Proposed SBE Utilization form without first submitting a Request for Exemption and receiving approval in writing from the City’s Equal Opportunity Department (EOD), Contract Compliance Division.

3. The contractor shall notify the City of Phoenix Equal Opportunity Department immediately if any firm listed on the Bidder’s Statement of Proposed SBE Utilization form refuses to enter into a subcontract or fails to perform according to the requirements of the subcontract.

4. Any reduction of retention by the City to the contractor shall result in a corresponding reduction to subcontractors or suppliers who have performed satisfactory work. The contractor has 14 days from the date their retention reduction takes affect to reduce retention to the subcontractors.

5. The contractor shall return all retention monies to subcontractors at such time as the work originally proposed by the subcontractor, and expressed in the original subcontract agreement, is complete and the purchaser (City) has accepted the work and paid the prime for the work performed by the subcontractor. Retention shall be paid no later than 30 days after such payment is made by the City.

6. The contractor shall act in good faith to meet the contract SBE utilization goal and provide all necessary documentation to show proof of those efforts as requested by the City.

If for any reason the SBE firm is decertified prior to the execution of a subcontract agreement, the bidder shall find additional SBE participation in the amount equivalent to or greater than that which was originally proposed for the SBE firm. Bidder shall make every good faith effort possible in finding a SBE replacement in the proposed trade area first, before considering SBE participation in other trade areas.
SECTION VII. Subcontract Assurances

Each contract signed by the Agency and the Successful Bidder and each subcontract signed by the Successful Bidder with a Subcontractor, including Subcontractors with lower tier Subcontractors must include the following assurances verbatim:

**Prompt Payment of Subcontractors** The Contractor and Subcontractor shall promptly pay its lower tier subcontractors, sub consultants, or suppliers upon receipt of payment from the City of Phoenix (Agency).

Progress Payments: In accordance with the Arizona Revised Statues (ARS), Section 34-221(G), the Contractor(s) shall promptly pay its subcontractors, sub consultants, or suppliers within seven (7) calendar days of receipt of each progress payment from the Agency. Any diversion by the Contractor(s) of payments received for work performed on the contract, or failure to reasonably account for the application or use of such payments, constitutes grounds for a declaration of breach of the contract with the Agency.

Retention Payments: If the Agency reduces the Contractor’s retention, the Contractor shall correspondingly, within 14 days, reduce the retentions held against the Subcontractors and suppliers that have performed satisfactory work.

Release of Retention: The Contractor(s) shall ensure prompt and full payment of retentions to Subcontractors and suppliers when their work is complete, the Agency has accepted the work, and the Agency has paid the Contractor for the work. The Contractor shall pay each Subcontractor’s and supplier’s retention no later than 30 days after the Agency pays Contractor for the completed scope of work.

**Changes to Subcontracts and Values** The City of Phoenix prohibits Contractor(s) from altering the Contractor’s Statement of Proposed SBE Utilization form without receiving prior, written consent from the City. The Equal Opportunity Department must be informed, in writing, and in advance of the following:

- Reduction to the scope of work performed by subcontractors working on the contract
- Changes in any of the subcontract values resulting in a reduced dollar amount
- Replacement and/or release of any subcontractor after contract award

Contractor(s) and Subcontractor(s) are required to complete a Request for Exemption Form and have the written approval of the Contract Compliance Office prior to taking action on any of the above listed matters related to SBE subcontractors.

In the event that any provision of this subcontract varies from the provisions of the contract or subcontract, the provisions for SBE contract compliance as contained in Administrative Regulation 1.89, Section IX, shall provide definitive guidance.

**Disclaimer:** Nothing in this section prevents the Contractor or Subcontractor from enforcing its subcontract with a lower tier Subcontractor or supplier for defective work, late performance, and other claims arising under the Subcontract.
SECTION VIII. RECORDS and REPORTING REQUIREMENTS

1. **Records**
   During performance of the Contract, the Successful Submitter shall keep all records necessary to document DBE and Small Business participation. The Successful Submitter shall provide the records to the Agency within 72 hours of the Agency’s request and at final completion of the Contract. The Agency will prescribe the form, manner, and content of reports. The required records may include but not limited to:

   a) A complete listing of all Subcontractors and suppliers on the project;
   b) Each Subcontractor’s and supplier’s scope performed;
   c) The dollar value of all subcontracting work, services, and procurement;
   d) Copies of all executed Subcontracts, purchase orders, and invoices: and
   e) Copies of all payment documentation.

2. **Reports**
   a. The contractor shall participate in all compliance reviews determined necessary by the City. This includes, but is not limited to participating in on-site reviews, providing monthly utilization reports of SBE activity, providing signed copies of subcontracts and/or purchase orders with each SBE listed on the Bidder’s Statement of Proposed SBE Utilization form, and complying with any and all requests for information the City deems appropriate for effectively monitoring this contract for compliance with the SBE Program requirements.

   b. The contractor shall provide regular, monthly report/audit information that will assist us in effectively monitoring your compliance with the SBE Program requirements. This shall include listing all subcontractors working on the contract and reporting payments into the Certification and Compliance System [https://phoenix.diversitycompliance.com](https://phoenix.diversitycompliance.com). Reporting audits shall include all payments received from the City and payments you have issued to all subcontractors and suppliers. **Copies of the first 2 pages of the Pay Request submittal are required with each report. All Monthly audit reports are to be completed online by the 15th of every month.** ([https://phoenix.diversitycompliance.com](https://phoenix.diversitycompliance.com)).
      i. The total of all payments received from the City during the previous month.
      ii. The first two pages of each payment application submitted for those payments.
      iii. All payments made to Subcontractors during the previous month.

Before the Agency processes the Successful Submitter’s final payment and/or outstanding retention held against the Successful Submitter, the Successful Submitter shall submit to the Agency a final certification of full and final payment to each Subcontractor in the form prescribed by the Agency. The form must be completed and certified by the Successful Submitter’s and each Subcontractor’s duly authorized agents.
SECTION IX. PERFORMANCE OF A COMMERCIALY USEFUL FUNCTION

The prime contractor may count only expenditures to SBE subcontractors that perform a commercially useful function in the work of the contract, as defined in Chapter 18 Article VI of the City Code. A "commercially useful function" constitutes performing real and actual services related to the contract.

SBE subcontractors may enter into second-tier subcontracts consistent with normal industry practices. If an SBE subcontracts greater than twenty-five (25) percent of the work of their contract, the SBE subcontractor shall be presumed not to be performing a commercially useful function. In this event, the prime contractor will not be allowed to claim any expenditure to the SBE subcontractor.

SECTION X. FAILURE TO COMPLY WITH THE SBE PROGRAM REQUIREMENTS

If the Equal Opportunity Department determines that the contractor will fail, or has failed, to meet the SBE subcontracting goals, and/or has failed to act in good faith to ensure compliance with the SBE conditions of its contract; it shall deem the contractor “noncompliant” and not in good standing. A noncompliant status shall result in the rejection of all future contract bids or offers for all projects or other procurements with the City until such time that the contractor has cured its breaches and demonstrates that it has faithfully performed its approved SBE utilization plan and all other provisions of this article required to be deemed in good standing. In addition to this action, the City may also exercise its option to impose any or all of the following remedies:

1. Withholding from the contractor ten percent (10%) of all future payments on the involved eligible project until it is determined that the contractor is in compliance;

2. Withholding from the contractor all future payments on the involved project until it is determined that the contractor is in compliance

Failure to cure a non-compliance status within the time frame provided by the City may result in further action, including but not limited to imposing any or all of the following sanctions:

1. Rejection of all future bids or offers from the contractor for any eligible project with the City or any of its departments or divisions for a period of (1) year after substantial completion of the contract.

2. Cancellation of the contract.
# CONTRACTOR’S STATEMENT OF PROPOSED SBE UTILIZATION (DBB)

**PROJECT NUMBER/NAME:** 27th Avenue; Lower Buckeye Road to Buckeye Road Major Street Improvement  
**Required SBE Goal:** 18.00 %

<table>
<thead>
<tr>
<th>SBE FIRMS</th>
<th>COMPANY NAME</th>
<th>SERVICES TO BE PROVIDED</th>
<th>SUPPLIER- (YES or NO) May not satisfy more than 25% of the Goal</th>
<th>SBE $ AMOUNT from LOI Tables - Sections C, D, or E</th>
<th>Countable SBE $ Amount (towards proposed goal)</th>
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</tr>
</tbody>
</table>

\[
\text{Total Bid} - (\text{Allowances & Alternates}) = (\text{Base Bid})
\]

\[
\text{Total Proposed SBE Dollars} \div \text{Base Bid} \times 100 = \text{Proposed SBE %}
\]

Proposed SBE Percentage must equal to or exceed the Required SBE Required Goal Percentage.

All additional contract dollars, including selected alternates, will be subject to the Proposed SBE Goal %. NO rounding allowed.

Do NOT propose SBE dollars in scopes related to Alternates, Allowances, or Contingencies as part of meeting the required SBE %.

I hereby certify by signing below the foregoing SBE firms shall be contracted to work on the trades identified above and/or supply material/equipment for this project. The information shown above is a true reflection of the proposed subcontracts.

COMPANY NAME: _______________________________  EMAIL: _______________________________  PHONE: _______________________________

NAME & TITLE: _______________________________

SIGNATURE: _______________________________  DATE: _______________________________
**Small Business Enterprise Program**

**Letter of Intent (LOI) To Perform as an SBE Subcontractor**

(This form **must** be completed by the SBE subcontractor – both SBE subcontractor & Prime signature are required)

| Project Number: ST85100341 | Project Description: 27th Avenue: Lower Buckeye Rd to Buckeye Rd. Major Street Improvement |

TO: ___________________________________________________ (Insert Name of Prime Contractor)

FROM: ________________________________________________ (Insert Name of SBE Firm)

A. The undersigned declares that the firm bidding to perform the work described herein, has been granted certification by the City of Phoenix (COP) as a Small Business Enterprise (SBE) in the area(s) of:

| (COP) Certification Description: |

B. The undersigned is bidding to perform the following scope(s) of work on the above referenced project:

| SECTION 1 - COMPLETE THIS PORTION IF THE SCOPE OF WORK IS BEING BID BY UNIT PRICE OR HOURLY RATE |
| SUPPLIER, BROKER, TRUCKING, HAULING, UNIFORMED OFFICERS MUST USE THIS SECTION |
| Scope of Work | Unit/Hourly Rate | # of Units/Hours | Total Quote Amount $ |
| SECTION 2 - GENERAL OR SPECIALTY CONSTRUCTION TRADE AREAS MUST USE THIS SECTION |
| Scope of Work | Total Quote Amount $ |

C. Of the Total Quote Amount reflected in Part B-SECTION 2, the following scope(s) of work with the given amount will not be performed by the SBE or is/are not covered under the SBE’s certification description:

| Scope(s) of Work | Amount $ |

D. If trucking services are included in Part B - SECTION 1 above, SBE **MUST** complete the following:

| Of the Total Quote Amount noted in part B-Section 1, the SBE affirms that the amount of * $ shall be performed by drivers the firm employs, and trucks the SBE owns and leases without drivers. |
| (The amount referenced above is transferred from Step 9 of the Worksheet (L.O.I.W.-1). *Only this amount shall be on the Statement of Proposed Utilization) |

E. All subcontractors providing Broker or Traffic Control/Security Services indicated in Part B-SECTION 1 above **MUST** Complete the following:

| Rate of the SBE’s fees/commissions _____ %; for a Total Amount in fees/commissions of: $ |
| The Percentage and Total Amount referenced above is transferred from Steps 2 and 3 of the Worksheet (page L.O.I. W.-1). Only the Total Amt in fee/commissions shall be reflected on the Bidders Statement of Proposed Utilization. |

Should the prime contractor receiving this form be selected for award of the contract, the undersigned affirms that he/she will enter into an agreement to perform the work bid herein.

(SBE Subcontractor Authorized Signature) ___________________________________________________ (Date)

(Print Name and Title) ____________________ (Phone Number) ____________________

By signing this LOI document, the Prime Contractor affirms that it has not altered or modified this document in any way other than, if applicable, entering the Unit/Hours and Total Quote Amount in Part B SECTION 1.

(Prime Contractor Authorized Signature) ___________________________________________________ (Date)

(Print Name and Title) ____________________ (Phone Number) ____________________

(COP) Certification Description:

Of the Total Quote Amount noted in part B-Section 1, the SBE affirms that the amount of * $ shall be performed by drivers the firm employs, and trucks the SBE owns and leases without drivers. *Only this amount shall be on the Bidder’s Statement of Proposed Utilization.*
A Letter of Intent to Perform as a SBE Subcontractor/Supplier (required for each SBE subcontractor/supplier proposed). The form documents services to be performed by the subcontractor/supplier and the total dollar amount of the subcontract that will be awarded to the SBE. Only the services performed in the area(s) described by the SBE’s certification description can be counted towards the SBE goal requirement.

**Part I. Trucking and Hauling:** SBEs should indicate on Part B-Section 1 and Part D, of the LOI form, the information regarding trucks to be used in executing the contract. The City allows the counting of all payments for services provided by trucks which the SBE owns. Trucks which the SBE leases on a long-term basis and are operated with drivers the SBE employs may also be counted in full. The payments for short-term leased trucks, with or without SBE employed drivers cannot be counted. Only trucks for which leasing agreements have been submitted and approved by EOD as part of the SBE firm’s current certification file shall be considered eligible for counting towards the goal.

<table>
<thead>
<tr>
<th>STEP ONE</th>
<th>STEP TWO</th>
<th>STEP THREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of work expected to be performed by trucks owned by the SBE (2 Trucks)</td>
<td>Value of work expected to be performed by trucks leased (with drivers) by the SBE on a long-term basis (2 Trucks)</td>
<td>Combined value of work expected to be performed by other trucking firms and/or trucks leased (without drivers) by the SBE (3 Trucks)</td>
</tr>
<tr>
<td>$20,000</td>
<td>$20,000</td>
<td>$33,000</td>
</tr>
</tbody>
</table>

**Part II. Fees and Commissions:** Insert the information from below under Step Three-Commission/Fees Percentage and the Countable Amount for SBE Participation into Part E of the LOI form. This part is applicable for the use of uniformed officers to provide traffic control and security and other services provided at an hourly rate by non-employees of the SBE contractor. *(The following information is provided as a sample only)*

<table>
<thead>
<tr>
<th>STEP ONE</th>
<th></th>
<th>Calculation Formula:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Hours</td>
<td>Per Hour Bid Amount</td>
<td>Total Gross Bid Amount</td>
</tr>
<tr>
<td>200</td>
<td>$35</td>
<td>$200 × $35 = $7,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STEP TWO</th>
<th></th>
<th>Calculation Formula:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Hour Bid Amount</td>
<td>Officers Hourly Rate</td>
<td>SBE Firm Commission/Fee</td>
</tr>
<tr>
<td>$35</td>
<td>$25</td>
<td>$10</td>
</tr>
<tr>
<td>$(10 / 35) * 100 = 28.57%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STEP THREE</th>
<th></th>
<th>Calculation Formula:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Bid Amount (from Step One)</td>
<td>Commission/Fee % (from Step Two)</td>
<td>Amount Countable for SBE Participation</td>
</tr>
<tr>
<td>$7,000</td>
<td>28.57%</td>
<td>$7,000 × .2857 = $2,000</td>
</tr>
</tbody>
</table>

**Part III. Construction Trade Areas:** SBE must indicate in the Scope of Work of Part B-Section 2 of the LOI form, all scope(s) of work associated with the Total Quote Amount. The SBE must complete Part C of the LOI form by entering the Scope of Work and amount not expected to be performed by the SBE or which is not covered under the SBE’s certification description. Subtracting this amount from the Total Quote Amount in Part B-Sect. 2 will result in the portion of work that can be counted as SBE participation.
CITY OF PHOENIX
LIST OF MAJOR SUBCONTRACTORS AND SUPPLIERS

PROJECT NO.: ST85100341  PROJECT TITLE: 27TH AVENUE – LOWER BUCKEYE ROAD TO BUCKEYE ROAD IMPROVEMENT

<table>
<thead>
<tr>
<th>DESCRIPTION OF WORK OR MATERIALS (CONTRACTOR TO ENTER TRADE/SUPPLIER AREAS)</th>
<th>SELF-PERFORMED BY PRIME CONTRACTOR</th>
<th>SUBCONTRACTOR/SUPPLIER COMPANY NAME (IF NOT SELF-PERFORMED)</th>
<th>CONTACT PERSON</th>
<th>PHONE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ YES □ NO</td>
<td>□ YES □ NO</td>
<td>□ YES □ NO</td>
<td>□ YES □ NO</td>
<td>□ YES □ NO</td>
</tr>
</tbody>
</table>

I hereby certify by signing below that the above listed companies will be utilized to perform work on this project for an amount equal to or greater than 5% of the base bid. These companies will not be removed or replaced without prior written approval by the City of Phoenix Project Manager. The City requires, as in Paragraph D – List of Major Subcontractors and Suppliers in the Information for Bidders that ALL vendors are listed or you will be disqualified. If you are self-performing the work, you must still list any suppliers for materials, or list any contractors that will assist you in any form.

COMPANY NAME ________________________________  SIGNATURE ________________________________

NAME & TITLE ________________________________  PHONE NUMBER ________________________________  DATE ________________________________

EMAIL ADDRESS ________________________________

L.O.S. - 1
CITY OF PHOENIX
LIST OF ALL SUBCONTRACTORS AND SUPPLIERS

PROJECT NO.: ST85100341 PROJECT TITLE: 27TH AVENUE – LOWER BUCKEYE ROAD TO BUCKEYE ROAD IMPROVEMENT

<table>
<thead>
<tr>
<th>DESCRIPTION OF WORK OR MATERIALS (CONTRACTOR TO ENTER TRADE/SUPPLIER AREAS)</th>
<th>SELF-PERFORMED BY PRIME CONTRACTOR</th>
<th>SUBCONTRACTOR/SUPPLIER COMPANY NAME (IF NOT SELF-PERFORMED)</th>
<th>CONTACT PERSON</th>
<th>PHONE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ YES □ NO</td>
<td>□ YES □ NO</td>
<td>□ YES □ NO</td>
<td>□ YES □ NO</td>
<td>□ YES □ NO</td>
</tr>
</tbody>
</table>

I hereby certify by signing below that the above listed companies will be utilized to perform work on this project. These companies will not be removed or replaced on the project without prior written approval by the City of Phoenix Project Manager. The City requires, as in Paragraph D - List of All Subcontractors and Suppliers in the Information for Bidders that ALL vendors are listed or you will be disqualified. If you are self-performing the work, you must still list any suppliers for materials, or list any contractor’s that will assist you in any form.

COMPANY NAME ____________________________ SIGNATURE ____________________________

NAME & TITLE ____________________________ PHONE NUMBER ___________ DATE ____________

EMAIL ADDRESS ____________________________

L.O.S. - 2
Authorized Contact for this Disclosure Statement

Name:__________________________________________

Title:__________________________________________

E-mail:__________________________________________

Phone number:____________________________________

FAX number:______________________________________

List any other DBA, trade name, other identity, or EIN used in the last five (5) years, the state or country where filed, and the status (active or inactive): (if applicable):

________________________________________________

________________________________________________

Business Characteristics

Business entity type – Please check appropriate box and provide additional information:

☐ Corporation
☐ Limited Liability Company
☐ Limited Liability Partnership
☐ Limited Partnership
☐ General Partnership
☐ Sole Proprietor
☐ Other (explain)

Date of incorporation: __________
Date organized: __________
Date of registration: __________
Date established: __________

Was the business entity formed in the State of Arizona? Yes____ No_____ If no, indicate jurisdiction where Business Entity was formed: ____________________________

Is the Business Entity currently registered to do business in Arizona with the Arizona Corporation Commission? Yes____ No_____ Not required ________(if sole proprietor or general partnership)

Does the Business Entity have a City of Phoenix business privilege license? Yes____ No_____ If “no” explain and provide detail such as “not required” or “application in progress” or other reason.

Is the Business Entity publicly traded? Yes____ No_____

Is the responding Business Entity a Joint Venture? Note: If the Submitting Business entity is a Joint Venture, also submit a questionnaire for each Business Entity
comprising the Joint Venture. Yes_____ No______

Is the Business Entity’s Principal Place of Business/Executive office in Phoenix? If “no” does the Business Entity maintain an office in Phoenix? Yes_____ No______

Provide the address and phone number for the Phoenix office. ____________________________________________________________

Is the business certified by Phoenix as a Small Business Enterprise? Yes_____ No______

Identify Business Entity Officials and principal Owners:

Name(s) ______________________________________________Title____________________________________Percentage ownership ___%(Enter 0% if not applicable).

Name(s) ______________________________________________Title____________________________________Percentage ownership ___%(Enter 0% if not applicable).

Name(s) ______________________________________________Title____________________________________Percentage ownership ___%(Enter 0% if not applicable).

Name(s) ______________________________________________Title____________________________________Percentage ownership ___%(Enter 0% if not applicable).

Affiliates and Joint Venture Relationships

Does the Business entity have any Affiliates? Yes_____ No______ Attach additional pages if necessary.

Affiliate name: __________________________________________

Affiliate EIN (if available): ________________________________

Affiliate’s primary Business Activity: _______________________

Explain relationship with Affiliate and indicate percent ownership, if applicable. ________________________________

Are there any Business Entity Officials or Principal Owners that the Business Entity has in common with this Affiliate? __________________________

Individual’s name: __________________________________________

Position/Title with Affiliate: __________________________________

Has the Business Entity participated in any joint Ventures within the past three years? Yes_____ No______

(Attach additional pages if necessary)

Joint Venture Name: __________________________________________

Joint venture EIN (if applicable): __________________________

Identify parties to the Joint Venture: __________________________________________________________
Contract History

Has the Business Entity held any contracts with the city of Phoenix in the last three (3) years? Yes_____ No_____ If “yes” attach a list.

Integrity – Contract Bidding

Within the past three (3) years, has the Business Entity or any Affiliate been suspended or debarred from any government contracting process or been disqualified on any government procurement? Yes_____ No_____

Been subject to a denial or revocation of a government prequalification? Yes_____ No_____

Been denied a contract award or had a bid rejected based upon a finding of a non-responsibility by a government entity? Yes_____ No_____

Agreed to a voluntary exclusion from bidding/contracting with a government entity? Yes_____ No_____

Initiated a request to withdraw a bid submitted to a government entity or made any claim of an error on a bid submitted to a government entity? Yes_____ No_____

Initiated a request to withdraw a bid submitted to a government entity or made any claim of an error on a bid submitted to a government entity? Yes_____ No_____

For each “Yes” answer above, provide an explanation of the issues.

Integrity – Contract Award

Within the past three (3) years has the Business Entity or any Affiliate been suspended, cancelled, or terminated for cause on any government contract? Yes_____ No_____

Been subject to an administrative proceeding or civil action seeking specific performance or restitution in connection with any government contract? Yes_____ No_____

For each “yes” answer, provide an explanation. (Attach explanation on a separate sheet of paper).

Certifications/Licenses

Within the past three (3) years, has the Business Entity or Affiliate had a revocation, suspension, or disbarment of any business or professional permit and/or license? Yes_____ No_____

If “yes” provide an explanation of the issue(s), the Business Entity involved, the relationship to the submitting Business Entity, relevant dates, the government entity involved, and any remedial or corrective action(s) taken and the current status of the issues.

Legal Proceedings
Within the past three (3) years, has the Business Entity of any Affiliate:

Been the subject of an investigation, whether open or closed, by any government entity for a civil or criminal violation? Yes____ No______

Been the subject of an indictment, grant of immunity, judgment or conviction, (including entering into a plea bargain for conduct constituting a crime)? Yes____ No______

Received any OSHA citation and Notification of Penalty containing a violation classified as serious or willful? Yes____ No______

Had a government entity find a willful prevailing wage or supplemental payment violation? Yes____ No______

Been involved in litigation as either a plaintiff or a defendant involving a copyright or patent infringement violation or an anti-trust violation? Yes____ No______

Other than previously disclosed, for the past three (3) years:

(i) Been subject to the imposition of a fine or penalty in excess of $1000 imposed by any government as a result of the issuance of citation, summons or notice of violation, or pursuant to any administrative, regulatory, or judicial determination? Yes____ No______

(ii) Been charged or convicted of a criminal offense pursuant to any administrative and/or regulatory action taken by any government entity? Yes____ No______

If “yes” provide an explanation of the issue(s), the Business Entity involved, the relationship to the submitting Business Entity, relevant dates, the government entity involved, and any remedial or corrective action(s) taken and the current status of the issues.

Leadership Integrity

If the Business Entity is a joint Venture Entity, answer “N/A – Not Applicable” to questions below:

Within the past three (3) years has any individual previously identified, or any other Business Entity Leader not previously identified, or any individual having the authority to sign, execute, or approve bids, proposals, contracts or supporting documentation with the city of Phoenix been subject to:

A sanction imposed relative to any business or professional permit and/or license? Yes____ No______

An investigation, whether open or closed, by any government entity for a civil or criminal violation for any business related conduct? Yes____ No______
City of Phoenix

AFFIDAVIT OF IDENTITY

Your completion of this form is required by Arizona state law. A.R.S. §§ 1-501 and -50 only if you are a sole proprietor.

I, ________________________________ (print full name exactly as on document), hereby affirm, upon penalty of perjury, that I presented the document marked below to the City of Phoenix, that I am lawfully present in the United States, and that I am the person stated on the document. (select one category only)

☐ Arizona driver license issued after 1996.
   Print first four numbers/letters from license:
   ____________________________

☐ Arizona non-operating identification license.
   Print first four numbers/letters:
   ____________________________

☐ Birth certificate or delayed birth certificate issued in any state, territory or possession of the U.S.
   Year of birth: ___________; Place of birth: ______________________________

☐ United States Certificate of Birth Abroad.
   Year of birth: ___________; Place of birth: ______________________________

☐ United States Passport.
   Print first four numbers/letters on Passport:
   ____________________________

☐ Foreign Passport with United States Visa.
   Print first four numbers/letters on Passport:
   ____________________________
   Print first four numbers on Visa:
   ____________________________

☐ I-94 Form with a photograph.
   Print first four numbers on I-94:
   ____________________________

   Print first four numbers/letters on EAD:
   ____________________________
or Perm. Resident Card (acceptable alternative):
   ____________________________

☐ Refugee Travel Document.
   Date of issuance: ___________; Refugee country: ______________________________

☐ U.S. Certificate of Naturalization.
   Print first four digits of CIS Reg. No.:
   ____________________________

☐ U.S. Certificate of Citizenship.
   Date of issuance: ___________; Place of issuance: ______________________________

☐ Tribal Certificate of Indian Blood.
   Date of issuance: ___________; Name of tribe: ______________________________

☐ Tribal or Bureau of Indian Affairs Affidavit of Birth.
   Year of birth: ___________; Place of birth: ______________________________

Signed: ________________________________ Dated: ________________________________
**NOTES**

ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CONTRACT DOCUMENTS. CAREFULLY REVIEW ALL DRAWINGS AND SPECIFICATIONS. DETAILS MENTIONED IN THE PRECEDING TEXT SHALL BE INCLUDED IN THE DETAILS MENTIONED ON THE DRAWINGS.

ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE SPECIFICATION, CONTRACT DOCUMENTS, DRAWINGS AND GENERAL NOTES. DETAILS MENTIONED IN THE PRECEDING TEXT SHALL BE INCLUDED IN THE DETAILS MENTIONED ON THE DRAWINGS.

1. **CARTON CONTENTS** SHALL BE ON SITE AND AVAILABLE FOR INSPECTION PRIOR TO THE START OF CONSTRUCTION.

2. **CONSTRUCTION** SHALL BE COMPLETED IN ACCORDANCE WITH THE SPECIFICATION, CONTRACT DOCUMENTS, DRAWINGS AND GENERAL NOTES. DETAILS MENTIONED IN THE PRECEDING TEXT SHALL BE INCLUDED IN THE DETAILS MENTIONED ON THE DRAWINGS.

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4. **CARTON CONTENTS** SHALL BE ON SITE AND AVAILABLE FOR INSPECTION PRIOR TO THE START OF CONSTRUCTION.

5. **CONSTRUCTION** SHALL BE COMPLETED IN ACCORDANCE WITH THE SPECIFICATION, CONTRACT DOCUMENTS, DRAWINGS AND GENERAL NOTES. DETAILS MENTIONED IN THE PRECEDING TEXT SHALL BE INCLUDED IN THE DETAILS MENTIONED ON THE DRAWINGS.

6. **CARTON CONTENTS** SHALL BE ON SITE AND AVAILABLE FOR INSPECTION PRIOR TO THE START OF CONSTRUCTION.

**ROOSEVELT IRRIGATION DISTRICT GENERAL NOTES:**

1. **THE TERM "DISTRICT" IN THESE NOTES AND PLANS SHALL REFER TO THE ROOSEVELT IRRIGATION DISTRICT.**

2. **THE DISTRICT CONSTRUCTION OBSERVER MUST APPROVE THE SCHEDULING OF ALL CONSTRUCTION ACTIVITIES WITHIN THE DISTRICT RIGHT-OF-WAY OR EASEMENT.**

3. **THE DISTRICT MAY REQUIRE THAT SOME OR ALL OF THE CONSTRUCTION FOR THE PROJECT BE COMPLETED DURING A SCHEDULED DRY-UP OF THE MAIN CANAL.**

4. **ALL CONSTRUCTION PLANS AFFECTING DISTRICT FACILITIES MUST BE REVIEWED AND APPROVED BY THE DISTRICT.**

5. **THE CONTRACTOR SHALL CONTACT THE DISTRICT'S CONSTRUCTION OBSERVER AT 502-284-7017, A MINIMUM OF 14 CALENDAR DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.**

6. **THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR REVIEW BY THE DISTRICT ENGINEER AS REQUIRED BY THE CONTRACT DOCUMENTS AND SPECIFICATIONS.**

7. **ALL CONSTRUCTION PLANS AFFECTING DISTRICT FACILITIES MUST BE REVIEWED AND APPROVED BY THE DISTRICT CONSTRUCTION OBSERVER.**

8. **ALL CONSTRUCTION PLANS AFFECTING DISTRICT FACILITIES MUST BE REVIEWED AND APPROVED BY THE DISTRICT CONSTRUCTION OBSERVER.**

9. **ALL CONSTRUCTION PLANS AFFECTING DISTRICT FACILITIES MUST BE REVIEWED AND APPROVED BY THE DISTRICT CONSTRUCTION OBSERVER.**

10. **UTILITIES INCLUDE ANY WATER, SEWER, RECLAIMED WATER, GAS, ELECTRICAL, LANDSCAPE IRRIGATION, COMMUNICATION, ETC.**

**ROOSEVELT IRRIGATION DISTRICT GRADING NOTES:**

1. **THE CONTRACTOR SHALL PROVIDE SMOOTHLY AND EVENLY GRADED FINISHED GROUND SURFACES ABOUT ALL DISTRICT FACILITIES WITHIN THE PROJECT AREA AND BLEND SMOOTHLY INTO EXISTING GRADES.**

2. **THE CONTRACTOR SHALL IMPORT ADDITIONAL FILL MATERIAL OR EXPORT EXCESS CUT MATERIAL AS REQUIRED TO PROVIDE SATISFACTORY FINISHED GRADING ABOUT DISTRICT FACILITIES AS INDICATED ON THE APPROVED PLANS OR AS DIRECTED BY THE DISTRICT CONSTRUCTION OBSERVER.**

3. **FINISHED SURFACES SHALL BE GRADED TO DIRECT DRAINAGE AWAY FROM DISTRICT FACILITIES.**

4. **O&M ROADS ADJACENT TO THE CANAL PRISM SHALL BE CONSTRUCTED WITH A MINIMUM ELEVATION 6" ABOVE ADJACENT FIELDS AND A 2% CROSS SLOPE AWAY FROM CANAL PRISM AREA UNLESS OTHERWISE NOTED.**
<table>
<thead>
<tr>
<th>BID ITEM NUMBER</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY / PLAN SHEET NUMBERS</th>
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</table>
CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

27TH AVENUE
LOWER BUCKEYE ROAD TO BUCKEYE ROAD

PAVEMENT STRUCTURAL SECTION NO.

27TH AVENUE

TYPICAL SECTIONS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT
27TH AVENUE
LOWER BUCKEYE ROAD TO BUCKEYE ROAD
ST85100341
DURANGO STREET SIDEWALK K RAMP DETAIL NW CORNER:

DURANGO STREET SIDEWALK K RAMP DETAIL SW CORNER:

SECTION A-A

SECTION B-B

DETAILS SHEETS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT
27TH AVENUE
LOWER BUCKEYE ROAD TO BUCKEYE ROAD
STB5100341
### REMOVALS

<table>
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<tr>
<th>NO.</th>
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<tbody>
<tr>
<td>1</td>
<td>REMOVE EXISTING PAVEMENT (STA 100+33 TO 104+00)</td>
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<tr>
<td>2</td>
<td>CONCRETE SIDEWALK RAMP PER COP STD. DET. P1236</td>
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<tr>
<td>3</td>
<td>TELEPHONE PEDESTAL, UTILITY MARKER TO BE RELOCATED BY SPRINT FORCES</td>
</tr>
<tr>
<td>4</td>
<td>DECOMPOSED GRANITE, 2&quot; MINUS, STABILIZED, 2&quot; THICK</td>
</tr>
<tr>
<td>5</td>
<td>EXISTING PIPE, BACKFILL &amp; COMPACT (103+00 TO 104+00)</td>
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<tr>
<td>6</td>
<td>EXISTING CONCRETE SIDEWALK RAMP (STA 100+37 TO 100+76)</td>
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<tr>
<td>7</td>
<td>12KV POWER POLE BY SRP FORCES</td>
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<tr>
<td>8</td>
<td>FO BOX, UTILITY MARKER TO BE RELOCATED BY SPRINT FORCES</td>
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</tbody>
</table>

### CONSTRUCTION NOTES

- Call at least two full working days before you begin excavation.
- Dial 8-1-1 or 1-800-STAKE-IT (782-5348) in Maricopa County: (602) 263-1100
- Arizona Blue Stake, Inc.

### REMOVALS BY OTHERS

- REMOVE EXISTING PAVEMENT (STA 100+33 TO 104+00)
- EXISTING CATCH BASIN, BACKFILL & COMPACT (STA 100+78 RT, 103+89 LT & RT)
- EXISTING PIPE, BACKFILL & COMPACT (103+00 TO 104+00)
- EXISTING CONCRETE SIDEWALK RAMP (STA 100+37 TO 100+76)
- 12KV POWER POLE BY SRP FORCES
- FO BOX, UTILITY MARKER TO BE RELOCATED BY SPRINT FORCES
- DECOMPOSED GRANITE, 2" MINUS, STABILIZED, 2" THICK
- 12" X 11' RGRCP CL IV
- 15" X 44.0' RGRCP CL IV
- 15" X 6.5' RGRCP CL IV
- 15" X 17' RGRCP CL IV

### CALL OUTS

1. Call at least two full working days before you begin excavation.
2. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) in Maricopa County: (602) 263-1100
3. Arizona Blue Stake, Inc.
### Paving Plan and Profile

#### 27th Avenue

**Lower Buckeye Road to Buckeye Road**

**ST851900341**

---

### Table: Paving Plan and Profile

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Unit Qty.</th>
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<tr>
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<td>12&quot; x 9' RGRCP Class V PER SRP Plans</td>
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<td>3030&quot; RGRCP CLASS V PER SRP PLANS</td>
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<td>500&quot; IRRIGATION MANHOLE PER SRP PLANS</td>
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<td>9&quot; IRRIGATION MANHOLE TO BE RELOCATED BY PROPERTY OWNER</td>
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<td>12&quot; X 9' RGRCP COLLAR PER SRP STD. DWG.</td>
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<td>17&quot; REMOVE AND RELOCATE EXISTING WROUGHT IRON MAN GATE (STA 106+70)</td>
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<td>19 REMOVE AND RELOCATE PRIVATE SIGN (INCLUDING POST). REMOVE FOUNDATION AND BACKFILL. NEW FOUNDATION REQUIRED.</td>
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<td>31 CONCRETE PIPE COLLAR PER SRP STD. DWG. WES-SPIPECLR</td>
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<td>32 DECOMPOSED GRANITE, 3&quot; MINUS, STABILIZED, 2&quot; THICK</td>
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<td></td>
<td>33 REMOVE AND RELOCATE EXISTING CHAIN LINK FENCE TO RIGHT OF WAY</td>
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<td>34 CALL AT LEAST TWO FULL WORKING DAYS BEFORE YOU BEGIN EXCAVATION. DIAL 8-1-1 OR 1-800-STAKE-IT (782-5348) IN MARICOPA COUNTY: (602) 263-1100</td>
<td></td>
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<td></td>
<td>35 ARIZONA BLUE STAKE, INC.</td>
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</tbody>
</table>

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### Notes:

- Call at least two full working days before you begin excavation.
- Dial 8-1-1 or 1-800-STAKE-IT (782-5348) in Maricopa County: (602) 263-1100
- Arizona Blue Stake, Inc.
Call at least two full working days before you begin excavation.

Dial 8-1-1 or 1-800-STAKE-IT (782-5348)

In Maricopa County: (602) 263-1100

Arizona Blue Stake, Inc.

MATCH LINE STA 114+00 - SEE SHEET

MATCH LINE STA 119+00 - SEE SHEET

COOPERATION REQUESTED WITH CONTRACTOR GM-1. PROJECT IS TO PLACE AT ALL WAES. CONTRACTOR SHALL CONTACT THE ENGINEER CONSTRUCTION DESIGNER AT (602) 496-1407 AHEAD OF TIME TO ARRANGE CHANGES OF USE NO INTERFERENCE

PROTECTION REQUIRED FOR EXISTING CONDUITS SHALL CONTACT THE ENGINEER CONSTRUCTION DESIGNER AT (602) 496-1407 AHEAD OF TIME TO ARRANGE CHANGES OF USE NO INTERFERENCE

ADJUST STORM DRAIN MANHOLE FRAME & COVER PER MAG STD DET 422

ADJUST UTILITY MANHOLE FRAME & COVER PER DETAILS & SPECIFICATIONS

NEW PAVEMENT PER TYPICAL SECTIONS ON SHEETS 5-9. SEE SHEET 3 FOR QUANTITIES

EXISTING CATCH BASIN - PROTECT IN PLACE

NEW PAVEMENT PER TYPICAL SECTIONS ON SHEETS 5-9. SEE SHEET 3 FOR QUANTITIES

EXISTING CATCH BASIN - PROTECT IN PLACE

27TH AVENUE

LOWER BUCKEYE ROAD TO BUCKEYE ROAD

ST85100341
Close relevant trench, inspect and repair if needed.
Prepare storm drainage system per specifications.
Continue earthwork and prepare site for construction.
Continue construction activities as per the approved plans.

Paving Plan and Profile

City of Phoenix, Arizona
Street Transportation Department
27th Avenue
Lower Buckeye Road to Buckeye Road
ST85100341
**CITY OF PHOENIX, ARIZONA**
**STREET TRANSPORTATION DEPARTMENT**

**27TH AVENUE**
LOWER BUCKEYE ROAD TO BUCKEYE ROAD

---

**A R I Z O N A**
**T Y  L I N  I N T E R N A T I O N A L**

---

**DURANGO STREET**

---

**PAVING PLAN AND PROFILE**

### Match Line STA 124+00 - See Sheet 17

- **Match Line STA 129+00 - See Sheet 19**

---

### NO. DESCRIPTION

<table>
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<tr>
<th>No.</th>
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<tbody>
<tr>
<td>1</td>
<td>Match Line STA 124+00 - See Sheet 17</td>
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<tr>
<td>2</td>
<td>Match Line STA 129+00 - See Sheet 19</td>
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</tbody>
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### Construction Notes

- **Conn Size X LF No. Station**
  - 124+05, 33' RTM-1 L=3'
  - 124+36, 32'± LTM-1 L=3'
  - 127+68, 32' LTM-1 L=6'

---

### Storm Drain Notes

- **Type**
  - 15" X 44.5' RGRCP CL IV
  - 15" X 33.5' RGRCP CL IV

---

### Notes

- **Call at least two full working days before you begin excavation.**
- **Dial 8-1-1 or 1-800-STAKE-IT (782-5348)**
- **In Maricopa County: (602) 263-1100**
- **Arizona Blue Stake, Inc.**
Call at least two full working days before you begin excavation. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) in Maricopa County: (602) 263-1100.
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Dial 8-1-1 or 1-800-STAKE-IT (782-5348)

In Maricopa County: (602) 263-1100

Arizona Blue Stake, Inc.

PAVING DETAILS

ESTERBROOKS BOULEVARD

27TH AVENUE
Call at least two full working days before you begin excavation.

Dial 8-1-1 or 1-800-STAKE-IT (782-5348)

In Maricopa County: (602) 263-1100
Call at least two full working days before you begin excavation.
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Call at least two full working days before you begin excavation.

Dial 8-1-1 or 1-800-STAKE-IT (782-5348)

In Maricopa County: (602) 263-1100

Arizona Blue Stake, Inc.

ARIZONASTATE}

PAVING DETAILS
CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT
27TH AVENUE
LOWER BUCKEYE ROAD TO BUCKEYE ROAD
ST85100341

YUMA STREET
SEE PAVING PLAN 22
Call at least two full working days before you begin excavation.

Dial 8-1-1 or 1-800-STAKE-IT (782-5348)

In Maricopa County: (602) 263-1100
Call at least two full working days before you begin excavation.

Dial 8-1-1 or 1-800-STAKE-IT (782-5348)

In Maricopa County: (602) 263-1100
Call at least two full working days before you begin excavation.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
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NOTE:

This drawing is a preliminary sketch and is subject to change. The finished product may vary. This drawing is not intended to be a pictorial representation of the project. It is to be used as a guide for the construction of the project.

CONNECTOR PIPE PROFILES

CITY OF PHOENIX, ARIZONA

STREET TRANSPORTATION DEPARTMENT

27TH AVENUE
LOWER BUCKEYE ROAD TO BUCKEYE ROAD

ST85100341
Call at least two full working days before you begin excavation.
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A R I O 9 2 4 O

CITIES R C I T I E N D N.

A R I Z O N A A R I Z O N A
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Arizona Blue Stake, Inc.
JUNCTION BOXES SHALL MEET UTILITY COMPANY STANDARDS.

1. ADDITIONAL TRENCH DEPTH IS USUALLY REQUIRED AT ALL LIGHTING LOCATIONS. SEE 8648 FOR THE MINIMUM TRENCH DEPTHS AND THE DEGREE OF SLOPE ALLOWED AS THE TRENCH DEPTH CHANGES.

2. ON 277 VOLT STREET LIGHT CIRCUITS, INSTALL "277 VOLT" SOCKET TYPE PHOTOELECTRIC CONTROLLERS ONLY. ORANGE (120/277) SOCKET WITH BLACK (120) AND WHITE (277) LEADS OR WHITE (120) AND RED (277) LEADS. SEE NOTE 5.

3. IMBALANCE IN PHASES MAY OCCUR DUE TO SHUNT, CAPACITOR, OR COMBINATION OF BOTH. SEE SERVICE PLANS AND INSTALLATION INSTRUCTIONS.

4. TO AVOID LIGHTING CONSIDERATIONS, A PROPER LIGHTING SYSTEM IS REQUIRED.

5. ON EXISTING POLES IN THE FIELD, WITHOUT TWO SIMPLEX FITTINGS, SEE 8198 FOR AVAILABLE ALTERNATIVES.

6. ADDITIONAL TRENCH DEPTH IS USUALLY REQUIRED AT ALL LIGHTING LOCATIONS. SEE 8648 FOR THE MINIMUM TRENCH DEPTHS AND THE DEGREE OF SLOPE ALLOWED AS THE TRENCH DEPTH CHANGES.

7. ON 277 VOLT STREET LIGHT CIRCUITS, INSTALL "277 VOLT" SOCKET TYPE PHOTOELECTRIC CONTROLLERS ONLY. ORANGE (120/277) SOCKET WITH BLACK (120) AND WHITE (277) LEADS OR WHITE (120) AND RED (277) LEADS. SEE NOTE 5.

8. IMBALANCE IN PHASES MAY OCCUR DUE TO SHUNT, CAPACITOR, OR COMBINATION OF BOTH. SEE SERVICE PLANS AND INSTALLATION INSTRUCTIONS.

9. TO AVOID LIGHTING CONSIDERATIONS, A PROPER LIGHTING SYSTEM IS REQUIRED.

10. ON EXISTING POLES IN THE FIELD, WITHOUT TWO SIMPLEX FITTINGS, SEE 8198 FOR AVAILABLE ALTERNATIVES.

11. ADDITIONAL TRENCH DEPTH IS USUALLY REQUIRED AT ALL LIGHTING LOCATIONS. SEE 8648 FOR THE MINIMUM TRENCH DEPTHS AND THE DEGREE OF SLOPE ALLOWED AS THE TRENCH DEPTH CHANGES.

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13. IMBALANCE IN PHASES MAY OCCUR DUE TO SHUNT, CAPACITOR, OR COMBINATION OF BOTH. SEE SERVICE PLANS AND INSTALLATION INSTRUCTIONS.

14. TO AVOID LIGHTING CONSIDERATIONS, A PROPER LIGHTING SYSTEM IS REQUIRED.

15. ON EXISTING POLES IN THE FIELD, WITHOUT TWO SIMPLEX FITTINGS, SEE 8198 FOR AVAILABLE ALTERNATIVES.
INSTALL

- Traffic Signal Pole Type "SR" - 4 New
- Traffic Signal Pole Type "LM" - 4 New
- Pedestrian Push Button Poles - 1 New
- 30" Signal Mast Arm - 1 New
- 40" Signal Mast Arm - 2 New
- 50" Signal Mast Arm - 1 New
- Type "PY1" 12" Signal Head - 5 New
  (Mast Arm Mount with Flange and Mount)
- Type "RH" 12" Signal Head - 4 New
  (Pole Mount)
- Type "PYA" 4 Section 12" Signal Head, Left Face - 4 New
  (Mast Arm Mount with Flange and Mount)
- Type "PYA" 4 Section 12" Signal Head, Left Face - 4 New
  (Pole Mount)
- CCTV Camera - 1 New
- Wireless Radio - 1 New
- Video Detection Camera - 4 New
- Emergency Vehicle Protection - 4 New
- 8 Phone Controller Cabinet - 1 New
- Power Service Pedestal - 1 New

- Luminaires
  - LED - 8 New
  - Signs at Signal
    - LED Illuminated Street Sign - 4 New
  - Pedestrian signal
    - Pedestrian Push Button - 5 New
  - Pedestrian Push Button - 5 New

Note:
- Adjust all signal head placements as shown on plan.
<table>
<thead>
<tr>
<th>TRAFFIC SIGNAL COLOR CODE TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OUTSIDE BAGUE MARKED WITH ORANGE TAPE</strong></td>
</tr>
<tr>
<td><strong>NO.</strong></td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
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<td>8</td>
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<tr>
<td>9</td>
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<tr>
<td>10</td>
</tr>
</tbody>
</table>

**COLOR SIGNALS**

- **Red**: Stop
- **Yellow**: Slow
- **Green**: Go
- **Blue**: Additional Precedence

**REV SIGNALS**

- **Basic Color**: Basic Color
- **Interval Color**: Interval Color

**4 SECTION FLASHING YELLOW ARROW MAST ARM AND SIDE MOUNT**

- **Basic Color**: Basic Color
- **Signal Color**: Signal Color
## Legend

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🐪</td>
<td>Existing pipe</td>
</tr>
<tr>
<td>🐪</td>
<td>Proposed pipe</td>
</tr>
<tr>
<td>🐪</td>
<td>Existing valve</td>
</tr>
<tr>
<td>🐪</td>
<td>Proposed valve</td>
</tr>
<tr>
<td>🐪</td>
<td>Existing manhole</td>
</tr>
<tr>
<td>🐪</td>
<td>Proposed manhole</td>
</tr>
<tr>
<td>🐪</td>
<td>Existing wing wall</td>
</tr>
<tr>
<td>🐪</td>
<td>Proposed wing wall</td>
</tr>
<tr>
<td>🐪</td>
<td>Fire hydrant</td>
</tr>
<tr>
<td>🐪</td>
<td>Water valve</td>
</tr>
<tr>
<td>🐪</td>
<td>Water meter (suction)</td>
</tr>
<tr>
<td>🐪</td>
<td>Water meter (discharge)</td>
</tr>
<tr>
<td>🐪</td>
<td>Gas line</td>
</tr>
<tr>
<td>🐪</td>
<td>Manhole (iron, wood)</td>
</tr>
<tr>
<td>🐪</td>
<td>Storm drain</td>
</tr>
<tr>
<td>🐪</td>
<td>Catch basin</td>
</tr>
<tr>
<td>🐪</td>
<td>Utility pole</td>
</tr>
<tr>
<td>🐪</td>
<td>Drain</td>
</tr>
<tr>
<td>🐪</td>
<td>Fence (wood)</td>
</tr>
<tr>
<td>🐪</td>
<td>Fence (metal)</td>
</tr>
<tr>
<td>🐪</td>
<td>Palm tree</td>
</tr>
<tr>
<td>🐪</td>
<td>Tree (type)</td>
</tr>
<tr>
<td>🐪</td>
<td>Stump</td>
</tr>
<tr>
<td>🐪</td>
<td>Mail box</td>
</tr>
<tr>
<td>🐪</td>
<td>Existing turnout structure</td>
</tr>
<tr>
<td>🐪</td>
<td>Pumpout structure</td>
</tr>
<tr>
<td>🐪</td>
<td>Fence (masonry)</td>
</tr>
<tr>
<td>🐪</td>
<td>Proposed turnout structure</td>
</tr>
</tbody>
</table>

## General Notes

1. The construction contract is responsible for providing a certified construction engineer and a certified construction inspector who will be present on the site throughout the construction period to ensure that all work is performed in accordance with the Plans and Specifications. All work shall be performed in accordance with the standards established by the City of Phoenix and the State of Arizona.

2. The work described in these Plans may involve the use of various types of construction materials. The contractor is responsible for ensuring that all materials used meet the specifications set forth in the Plans and Specifications. The contractor shall provide a copy of the material specifications to the engineer for review and approval.

3. The contractor shall provide a certified construction inspector who will be present on the site throughout the construction period to ensure that all work is performed in accordance with the Standards and Specifications. The inspector shall be responsible for verifying that all materials used meet the specifications set forth in the Plans and Specifications. The inspector shall provide a copy of the material specifications to the engineer for review and approval.

4. All construction work shall be performed in accordance with the Standards and Specifications. The contractor shall provide a copy of the material specifications to the engineer for review and approval.

5. All work shall be performed in accordance with the Standards and Specifications. The contractor shall provide a copy of the material specifications to the engineer for review and approval.

6. The contractor shall provide a certified construction inspector who will be present on the site throughout the construction period to ensure that all work is performed in accordance with the Standards and Specifications. The inspector shall be responsible for verifying that all materials used meet the specifications set forth in the Plans and Specifications. The inspector shall provide a copy of the material specifications to the engineer for review and approval.

7. The contractor shall provide a certified construction inspector who will be present on the site throughout the construction period to ensure that all work is performed in accordance with the Standards and Specifications. The inspector shall be responsible for verifying that all materials used meet the specifications set forth in the Plans and Specifications. The inspector shall provide a copy of the material specifications to the engineer for review and approval.

8. The contractor shall provide a certified construction inspector who will be present on the site throughout the construction period to ensure that all work is performed in accordance with the Standards and Specifications. The inspector shall be responsible for verifying that all materials used meet the specifications set forth in the Plans and Specifications. The inspector shall provide a copy of the material specifications to the engineer for review and approval.

9. The contractor shall provide a certified construction inspector who will be present on the site throughout the construction period to ensure that all work is performed in accordance with the Standards and Specifications. The inspector shall be responsible for verifying that all materials used meet the specifications set forth in the Plans and Specifications. The inspector shall provide a copy of the material specifications to the engineer for review and approval.

10. All existing irrigation easements and utilities shall be protected during the construction process. The contractor shall provide a copy of the material specifications to the engineer for review and approval.

11. The contractor shall provide a certified construction inspector who will be present on the site throughout the construction period to ensure that all work is performed in accordance with the Standards and Specifications. The inspector shall be responsible for verifying that all materials used meet the specifications set forth in the Plans and Specifications. The inspector shall provide a copy of the material specifications to the engineer for review and approval.

12. The contractor shall provide a certified construction inspector who will be present on the site throughout the construction period to ensure that all work is performed in accordance with the Standards and Specifications. The inspector shall be responsible for verifying that all materials used meet the specifications set forth in the Plans and Specifications. The inspector shall provide a copy of the material specifications to the engineer for review and approval.

## Key Plan

![Key Plan Image]

## Plan Index

- **PLANO00016**: Sheet 2 thru Sheet 3
- **MANHOLE DETAILS**: Sheet 2

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**Designated for Construction**

0 160045-3 100 0 1 5 75 1/28/2010

**Job No.**

160045-3 100 0 1 5 75 1/28/2010

**Field Engineer**

J. R. Sprinkle

**Project Manager**

R. J. Sprinkle

**Designated for Construction**

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