

Storage Tank Maintenance Program- Phase I South Tank Rehabilitation Project

Project Specifications and Contract Documents

DESCRIPTION: This project generally consists of the interior cleaning, crack repairs, joint repairs, concrete repairs, and interior coating of the South Tank located south of S. Washington Avenue

SPONSOR: CITY OF PRESCOTT, ARIZONA

PROJECT NUMBER: 16-7005815-8522-09544

BID OPENING: Thursday, February 25, 2016 at 2:00 PM
Prescott City Council Chambers
201 S. Cortez Street, Prescott, Arizona 86303

PREPARED BY: Public Works Department

January 2016

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SPECIAL NOTICE

BIDS WILL BE RETURNED UNOPENED IF NOT SUBMITTED PROPERLY SEALED AND PRIOR TO THE TIME SET FORTH IN THE NOTICE INVITING BIDS. ADDENDA SHALL BE ATTACHED INSIDE THE FRONT COVER OF THIS BOOKLET.

BIDS SHALL BE ENCLOSED IN SEALED ENVELOPES, ADDRESSED TO THE CITY OF PRESCOTT AND MARKED ON THE OUTSIDE LOWER RIGHT-HAND CORNER INDICATING:

1. The Bidder's Name;
2. The Project Title;
3. Bid Opening Date and Time;
4. Acknowledgment of Addenda received, if applicable.

BID DOCUMENTS

ALL BIDS MUST BE ACCOMPANIED BY THE FOLLOWING COMPLETED FORMS PROVIDED HEREIN:

1. Bidding Schedule (page 10)
2. Subcontractors List Bid Form (page 11)
3. Proposal (pages 13-15)
4. Bidder's Affidavit (page 16)
5. Bid Security
6. Acknowledgement of Addenda (if applicable)
7. Two (2) Proposed Staging Areas (if applicable)

Failure to complete and sign (where required), and return the above documents with your bid may render it irregular. It is not necessary to return a complete copy of the Notice Inviting Bids, Project Specifications and Contract Documents, other than the forms noted above.

QUESTIONS PERTAINING TO THIS PROJECT PRIOR TO AWARD OF THE CONTRACT SHALL BE DIRECTED TO: City of Prescott, Public Works Department, 433 N. Virginia Street, Prescott, AZ 86301; Phone (928) 777-1130; TDD (928) 777-1100; Fax (928) 771-5929.

NOTICE INVITING BIDS

PROJECT: Storage Tank Maintenance Program- Phase I South Tank Rehabilitation

DESCRIPTION: This project generally consists of the interior cleaning, crack repairs, joint repairs, concrete repairs, and interior coating of the South Tank located south of S. Washington Avenue.

BID OPENING: Thursday, February 25, 2016 at 2:00 PM

MANDATORY PRE-BID MEETING: Wednesday, February 10, 2016 at 10:00 AM, City of Prescott Public Works Department

Sealed bids will be received at the Office of the City Clerk, addressed to the attention of the City Clerk, City of Prescott, 201 S. Cortez Street, Prescott, AZ 86303, before 2:00 pm on Thursday, February 25, 2016, for furnishing all plant, materials, and labor and performing work for construction of the Storage Tank Maintenance Program- Phase I South Tank Rehabilitation Project.

Bids will be opened and read aloud at the noted date and time in the Prescott City Hall Council Chambers. Any bid received at or after 2:00 pm on the above stated date will be returned unopened. The City of Prescott reserves the right to accept or reject any or all bids, and/or some or all of the alternates bid, and waive any informality deemed in the best interest of the City and to reject the bids of any persons who have been delinquent or unfaithful to any contract with the City of Prescott.

Copies of the Plans, Project Specifications and Contract Documents are available for public inspection at the Public Works Department, 433 N. Virginia Street, Prescott, Arizona, 86301, (Phone: (928) 777-1130; TDD: 777-1100) or on the City's website at <http://www.prescott-az.gov/business/bids/>. Those interested in having individual sets of the Plans and Documents may obtain them free of charge on the City's website or by payment of \$27.78 per set from Public Works, of which cost is non-refundable. An additional fee of \$20.00 will be required for mailing, if so desired.



Candace Manibusan, Contract Specialist

PUBLISHED: 2TC January.24 and January 31, 2016

INFORMATION FOR BIDDERS

PROPOSAL. All standard specifications and details referenced unless otherwise noted shall conform to all the City of Prescott Standard Specifications and Detail Drawings, most current revision, and to the most current edition of the Uniform Standard Specifications and Details for Public Works Construction by the Maricopa Association of Governments, Arizona, including revisions thereto.

BIDDING REQUIREMENTS AND CONDITIONS. MAG Specifications, Sections 102.1 through 102.13, including: Bids shall be delivered to the office of the City Clerk, City of Prescott, Arizona, before the day and hour set for the submittal of bids in the Notice Inviting Bids as published. Bids shall be enclosed in a sealed envelope bearing the title of the work and the name of the bidder. It is the SOLE responsibility of the bidder to see that his bid is received in proper time. Any bids received after the scheduled closing time for receipt of bids will be returned to the bidder unopened.

IRREGULAR PROPOSALS. MAG Specifications, Section 102.7, including: (f) if the bid is mathematically unbalanced, and (g) if the bid is materially unbalanced.

CONFIRMATION OF BID. At any time after the opening of the bids the Public Works Director may require any bidder on the project to confirm such bid in writing prior to contract award. The following certification language shall be submitted by separate letter on company letterhead when requested by the Public Works Director:

I, the undersigned hereby certify the prices bid for the Storage Tank Maintenance Program- Phase I South Tank Rehabilitation Project have been reviewed and I hereby confirm work can be completed in accordance with the requirements of the contract documents, plans and specifications in the total bid amount of \$ _____ as stated in the Bidding Schedule.

EXPERIENCE AND QUALIFICATIONS. When requested by the City, the Bidder shall supply a list of all public projects begun within the previous three (3) years prior to contract award. The project list shall contain all public projects entered into by the Bidder and shall include the project name and location, original and final contract amounts, project status and a contact name and information. The Bidder shall provide a description and explanation for any projects that were not completed successfully. Failure to provide complete and factual information may be grounds for rejection of the bid in accordance with City Procurement Code Section 1-27-1.18(K).

SUBCONTRACTORS LIST BID FORM. The Subcontractors List Bid Form must be completed, attached and submitted along with the Bidding Schedule.

BID SECURITY. A certified check, cashier's check or bid bond in the amount of TEN PERCENT (10%) of the bid shall be required at the time the bid or proposal is submitted, in accordance with A.R.S. § 34-201(A)(3).

WITHDRAWAL OF BID. Any bidder may withdraw his bid, either personally, telegraphic, or by written request, at any time prior to the scheduled closing time for receipt of bids.

INTERPRETATION OF PLANS AND DOCUMENTS. MAG Specifications, Section 102.4, including: If any person contemplating submitting a bid for the proposed Contract is in doubt as to the true meaning of any part of the Plans, specifications, or other proposed Contract Documents, or finds discrepancies in or omissions from the Plans or Specifications, he shall submit to the City of Prescott Public Works Director a written request for an interpretation or correction thereof no later than five working days before bid or proposal opening. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the proposed documents will be made or

delivered to each person receiving a set of such documents. Interested bidders may call or visit the office of the City of Prescott Public Works Director with any questions up to 5:00 PM on the last Thursday prior to the bid opening date. The City of Prescott will no longer address or interpret any general questions or comments after 5:00 PM on the last Thursday prior to the bid opening date. Comments or questions received after the above referenced time will not be given consideration by the Department. Should any issue be determined significant to the project by the Public Works Director, appropriate action will be taken. Voice: (928) 777-1130; TDD (928) 777-1100.

PRE-AWARD CONFERENCE. The City may require the apparent low bidder to attend a Pre-award conference in order to establish that the Contractor fully understands the scope, complexity and expectations of the project as described in the Contract Documents; to discuss issues, concerns, risk areas and how to minimize them within the bounds of the contract; and to determine that the apparent low bidder is the most responsible and/or most qualified bidder in accordance with City Procurement Code Section 1-27-1.18(K).

The purpose of the Pre-award Conference is to ensure that all participants are apprised of their responsibilities and obligations regarding all applicable laws, rules, regulations and Ordinances contained in the contract documents prior to entering into a contract.

AWARD AND EXECUTION OF CONTRACT. MAG Specifications, Section 103.1 through 103.8, Award of Contract, first paragraph, 103.1, to be revised as follows:

The Contract will be awarded to the lowest qualified bidder complying with these instructions and with the Notice Inviting Bid. The City, however, reserves the right to accept or reject any or all bids if it deems it best for the public good, and to waive any informality in the bids received. The award, if made, will be within sixty (60) calendar days after the opening of bids.

ASSIGNMENT OF CONTRACT. No partial or full assignment by the Contractor of any contract to be entered into hereunder, or any part thereof, or of funds to be received there under by the Contractor, will be recognized by the City unless such assignment has had prior written approval of the City and the surety has been given due notice of such assignment in writing and has consented thereto in writing.

PLANS AND SPECIFICATIONS TO SUCCESSFUL BIDDER. The successful bidder may obtain six (6) sets of Plans and Specifications for this project at no extra cost. If he desires more than the six (6) sets, he may purchase additional sets of Plans and Specifications from the Public Works Director at the cost set forth in the Notice Inviting Bids.

NON-PERFORMANCE OF WORK TASKS BY THE CONTRACTOR. If the Contractor fails, neglects, or refuses to perform work tasks necessary for the completion of the total job; replace defective work; to repair or resurface, in a manner that is acceptable to the City and Engineer, public rights-of-way disturbed by his work which are a nuisance, hazard, impedes or endangers vehicular traffic and the public; the City may serve written notice upon the Contractor of its intention to have the work performed by others. Unless, within three (3) calendar days after the service of such notice, the Contractor has made such arrangement and scheduled the accomplishment of said work tasks to the satisfaction of the City and Engineer, the City will proceed to have the work accomplished by others or by itself and deduct the costs thereof from amounts due to the Contractor.

INDEMNIFICATION OF CITY AGAINST LIABILITY. The Contractor shall defend, indemnify and hold harmless the City of Prescott, its departments, officers, officials, agents, and employees (hereinafter referred to as "Indemnitee") from and against any and all claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys' fees and costs of claim processing, investigation and litigation) (hereinafter referred to as "Claims") for bodily injury or personal injury

(including death), or loss or damage to tangible or intangible property caused, or alleged to be caused, in whole or in part, by the negligent or willful acts or omissions of the Contractor or any of its owners, officers, directors, agents, employees or subcontractors. This indemnity includes any claim or amount arising out of or recovered under Worker's Compensation Law or arising out of failure of such contractor to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree. It is the specific intentions of the parties that the Indemnatee shall, in all instances, except for Claims arising solely from the negligent or willful acts of Indemnatee, be indemnified by Contractor from and against any and all claims. In consideration of the award of this contract, the Contractor agrees to waive all rights of subrogation against the City of Prescott, its departments, officers, officials, agents, and employees for losses arising from the work performed by the Contractor for the City of Prescott.

DEFINITIONS. According to MAG Specifications, Section 101.2, including:

- A. AWARD: The formal action of the governing body in accepting a proposal.
- B. BID SECURITY: Refers to the certified check, cashier's check, or surety bond, which is required to be submitted with the proposal to insure execution of the contract and the furnishing of the required bonds.
- C. CITY: City of Prescott
- D. CITY'S REPRESENTATIVE: The authorized representative of the City, which may be an individual or a firm, or his assistants assigned to the project work, the project site, or any part thereof during the performance of the work by the Contractor and until final acceptance.
- E. PUBLIC WORKS DIRECTOR: The City of Prescott Public Works Director or his designee, representative or assistants.
- F. DESIGN ENGINEER: The firm or person and his properly authorized assistants, designated by the City to prepare Plans and Specifications for the work.
- G. NOTICE TO BIDDERS: Refers to the standard forms inviting proposals or bids.
- H. MATERIALLY UNBALANCED BID: A bid that generates a reasonable doubt that award to the bidder submitting a mathematically unbalanced bid will result in the lowest ultimate cost to the City.
- I. MATHEMATICALLY UNBALANCED BID: A bid containing lump sum or unit bid prices that do not reflect reasonably anticipated actual costs plus a reasonable proportionate share of the bidder's anticipated profit, overhead costs, and other indirect costs.

ADDENDA. MAG Specifications, Sections 102.1 through 102.13, including: Any Addenda issued during the time of bidding, forming a part of the documents issued to the bidder for the preparation of his bid, shall be covered in the bid and shall be made a part of the contract. Addenda may be issued until noon on the Monday prior to the bid opening date. It is the prospective bidder's responsibility to check for Addenda related to this procurement. Addenda will be posted on the City's website at <http://www.prescott-az.gov/business/bids/>. Addenda may also be emailed to registered plan rooms and attendees of the mandatory pre-bid meeting, if applicable.

Bidding Schedule

Storage Tank Maintenance Program - Phase I South Tank Rehabilitation					
Item	Description	Quantity	Unit	Unit Cost	Amount
109.10	Mobilization	1	LS		
109.11	Contract Allowance	1	LS	\$80,000.00	\$80,000.00
501	Interior Surface Preparation	1	LS		
502.1a	Crack Repair - ≤ 1,000 LF	1,000	LF		
502.1b	Crack Repair - 1,001 LF to 2,000 LF	1,000	LF		
502.1c	Crack Repair - 2,001 LF to 3,000 LF	1,000	LF		
502.1d	Crack Repair - Greater Than 3,000 LF	1,000	LF		
502.2a	Concrete Repair Type 1 - ≤ 100 SF	100	SF		
502.2b	Concrete Repair Type 1 - 101 SF to 200 SF	100	SF		
502.2c	Concrete Repair Type 1 - 201 SF to 300 SF	100	SF		
502.2d	Concrete Repair Type 1 - Greater Than 300 SF	100	SF		
502.2e	Concrete Repair Type 2 - ≤ 100 SF	100	SF		
502.2f	Concrete Repair Type 2 - 101 SF to 200 SF	100	SF		
502.2g	Concrete Repair Type 2 - 201 SF to 300 SF	100	SF		
502.2h	Concrete Repair Type 2 - Greater Than 300 SF	100	SF		
502.2i	Concrete Repair Type 3 - ≤ 100 SF	100	SF		
502.2j	Concrete Repair Type 3 - 101 SF to 200 SF	100	SF		
502.2k	Concrete Repair Type 3 - 201 SF to 300 SF	100	SF		
502.2l	Concrete Repair Type 3 - Greater Than 300 SF	100	SF		
502.3	Inside Wall Construction Joints Repairs	300	LF		
502.4	Inside Wall - Floor Joint Repair	680	LF		
502.5	Inside Wall - Roof Joint Repair	680	LF		
502.6a	Interior Coating - Walls and Floor	49,000	SF		
502.6b	Interior Coating - Columns and Ceiling	48,000	SF		
	Total Bid Amount				

TOTAL BID

Dollars

(Written Words)

Signature of Company Official	Title
Company Name	Phone Number
Address	Fax Number
City/State	Zip Code

City of Prescott Public Works Department

SUBCONTRACTORS LIST BID FORM

Storage Tank Maintenance Program- Phase I South Tank Rehabilitation Project

Company Name and License Number		Mailing Address	Phone Number	Bid Item(s)	Total Sub-Contract Amount
1					\$
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
Total Sub-Contract Amount					\$

INSTRUCTIONS FOR PREPARING PROPOSAL

Payment for all work performed under this Contract shall be based on the units as shown in the Bidding Schedule. Payment of the bid items as stated in the Contractor's proposal for the completed work, shall be compensation in full for the furnishing of all overhead, labor, materials, devices, equipment and appurtenances included in the work as are necessary to complete the total work under this Contract in a good, neat, and satisfactory manner as indicated on the Plans, as described in the Specifications, and as otherwise implied or required to fulfill the objective of the work. It is the intent of the contract that maximum payment shall not exceed the agreed unit price without duly authorized contract amendments. Each item, fixture, piece of equipment, work, etc., as indicated on the Plans, or specified anywhere in these Documents shall be completed with all necessary connections and appurtenances for the satisfactory use and operation of said item, and the total system or systems.

Any and all patents, license fees, insurance premiums, etc., for the right to use equipment or processes included in this Contract shall be included in the total bid price.

Cost of testing, and other incidental operations, profit and overhead cost, including the cost of supervision, temporary field offices, move-in, move-out, insurance, taxes, equipment not a permanent part of the job, and other incidental items, shall be included in the total bid price.

The "Total Amount of Bid" must be filled out by the bidder. In case of any discrepancy between the price in figures and price in written words, as written or corrected, the price in written words shall be presumed to be correct unless obviously in error, and shall be considered as the Contractor's correct and intended bid.

Bids shall not contain any recapitulations of the work to be done. Alternative proposals will not be considered unless called for. If anyone is in doubt as to the true meaning of any part of the Plans, Specifications, or other Contract Documents, or finds discrepancies in or omissions from the Plans or Specifications, he must submit to the Engineer a written request for an interpretation or correction thereof. The person submitting the request will be responsible for its prompt delivery.

Any interpretation or correction of the Contract documents will be made only by an Addendum duly issued by the City and a copy of such Addendum will be mailed, faxed, or delivered to each person receiving a set of such Documents. The City will not be responsible for any other explanations or interpretations of the Documents.

If the Proposal is made by an individual, it shall be signed and his full name and address shall be given. If it is made by a partnership, it shall be signed with the partnership name and by a general partner of the firm who shall also sign his own name, and the name and address of each partner shall be given; and, if it is made by a corporation, the name of the corporation shall be signed by its duly authorized officer or officers.

The Subcontractors List Bid Form must be completed, attached and submitted along with the Bidding Schedule.

PROPOSAL

Place: _____

Date: _____

Proposal of _____

(Name)

Corporation organized and existing under the laws of the State of Arizona; a partnership consisting

of _____ or an individual trading as

_____.

TO THE HONORABLE MAYOR AND COUNCIL
CITY OF PRESCOTT
PRESCOTT, ARIZONA

Ladies and Gentlemen:

The Undersigned hereby proposes and agrees to furnish any and all required labor, material, construction equipment, transportation, and services for completion of the Storage Tank Maintenance Program- Phase I South Tank Rehabilitation Project, in strict conformity with the plans and specifications, at the total bid price of:

_____ Dollars

(\$ _____).

The Undersigned hereby declares that he has visited the site and has carefully examined the Contract Documents relating to the work covered by the above bid or bids.

The Bid Security (Certified Check, Cashier's Check, or Bid Bond) attached, payable to the City of Prescott in the sum of not less than ten percent (10%) of the total bid price bid for the complete project, to insure that the undersigned, if his bid is accepted, shall enter into contract and give the bonds and certificates of insurance required. In the event that the contract and bonds and certificates of insurance required are not furnished to the City within the time required, then and in that event the City may retain from the bid bond an amount, not to exceed the amount of the bid bond, representing the difference between the amount specified in the proposal or bid, and such larger amount that the City in good faith contracts with another party to perform the work covered by the proposal or bid.

The project shall be completed within sixty (60) calendar days after the starting date set forth in the NOTICE TO PROCEED.

The undersigned hereby declares, as bidder, that the only persons or parties interested in this PROPOSAL as principals are those named herein; that no elected official or employee of the City is in any manner interested directly or indirectly in this PROPOSAL or in the profits to be derived from the Contract proposed to be taken, other than as permitted by law; that this bid is made without any connection with any other person or persons making a separate bid for the same purpose; that the bid is in all respects fair and without collusion or fraud; that he has read the NOTICE INVITING BIDS

and the INFORMATION FOR BIDDERS hereto attached, and as more fully described in the attached contract and specifications, and agrees to furnish the items and perform the work called for in accordance with the provisions of said form of Contract and the Specifications and to deliver the same within the time stipulated herein, and that he will accept in full payment therefore the total bid price named in this Proposal.

The bidder shall be an A-General Engineering contractor properly licensed at the time of bidding to perform construction in connection with fixed works, including streets, roads, power and utilities plants, dams, hydroelectric plants, sewage and waste disposal plants, bridges, tunnels, and overpasses and shall also be licensed to perform work within residential and commercial property lines, or shall be properly licensed to sub-contract residential or commercial work, as may be required in the Scope of Work.

Any bid submitted without the proper contracting license to perform the required work shall be considered non-responsive and rejected.

The bidder further agrees that, upon receipt of written notice of the acceptance of this PROPOSAL, he will execute the Contract in accordance with the PROPOSAL as accepted and furnish the required bonds TEN (10) days from the date of mailing of said notice of award to him at his address as given below, or within such additional time as may be allowed by the City; and that upon his failure or refusal to do so within said time, then the certified or cashier's check or bid bond accompanying this bid shall be cashed or enforced and the money payable pursuant thereto shall be forfeited to and become the property of the City as liquidated damages for such failure or refusal; provided that if said bidder shall execute the Contract and furnish the required bonds within the aforesaid time, his certified or cashier's check, if furnished, shall be returned to him within three (3) days thereafter, and the bid bond, if furnished, shall become void.

Bidder understands and agrees that the City reserves the right to reject any or all bids and to waive any informality in the bidding.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving bids.

Bidder acknowledges receipt of the following Addenda: _____

The undersigned is the holder of Arizona State Contractor's License No(s). and Classification(s):

Respectfully submitted,

Bidder

Corporate Seal

By: _____

Title: _____

Bidder's Contact Information:

Address: _____

Telephone No: _____

Fax No: _____

Email: _____

Names and addresses of all members of the firm or names and titles of all officers of the corporation:

BIDDERS AFFIDAVIT

Storage Tank Maintenance Program- Phase I South Tank Rehabilitation Project

State of _____)
) ss.
County of _____)

_____, being first duly sworn, deposes and says:

That he/she is _____ of _____.
(Title) (Bidder)

who submits herewith to the City of Prescott, Arizona, a proposal:

That all statements of fact in such proposal are true;

That said proposal was not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization or corporation;

That said bidder has not, directly or indirectly by agreement, communication or conference with anyone attempted to induce action prejudicial to the interest of the City of Prescott, Arizona, or of any bidder or anyone else interested in the proposed contract; and further,

That prior to the public opening and reading of proposal, said bidder:

1. Did not directly or indirectly, induce or solicit anyone else to submit a false or sham proposal;
2. Did not directly or indirectly collude, conspire, connive or agree with anyone else that said bidder or anyone else would submit a false or sham proposal, or that anyone should refrain from bidding or withdraw his proposals;
3. Did not in any manner, directly or indirectly, seek by agreement, communication or conference with anyone to raise or fix the proposal price of said bidder or of anyone else, or to raise or fix any overhead, profit or cost element of his proposal price, or of that of anyone else;
4. Did not, directly or indirectly, submit his proposed price or any breakdown thereof, or the contents thereof, or divulge information or data relative thereto, to any corporation, partnership, company, association organization, bid depository or to any member or agent thereof, or to any individual or group of individuals, except the City of Prescott, Arizona, or to any person or persons who have a partnership or other financial interests with said bidder in his business.

By: _____

SUBSCRIBED AND SWORN to before me by _____

this _____ day of _____, 2016.

Notary Public

Commission Expires

INSURANCE REQUIREMENTS

INSURANCE: Contractor and subcontractors shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Contract are satisfied, insurance against claims for injury to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

The insurance requirements herein 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 contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this Contract by the Contractor, his agents, representatives, employees, or subcontractors. Contractor is free to purchase such additional insurance as may be determined necessary.

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

1. On insurance policies where the City of Prescott is named as an additional insured, the City of Prescott shall be 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.
2. The Contractor's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.

NOTICE OF CANCELLATION: With the exception of a ten (10) day notice of cancellation for non-payment of premium, any changes material to compliance with this contract in the insurance policies above shall require a thirty (30) day written notice.

ACCEPTABILITY OF INSURERS: Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A-VII, unless otherwise approved by the City of Prescott. General liability, automobile liability, and worker's compensation insurance is to be placed with an insurer admitted in the state in which operations are taking place.

VERIFICATION OF COVERAGE:

- A. Contractor shall 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.

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 and warranty period as set forth in Paragraph 3 of the "Contractor's Affidavit Regarding Settlement of Claims and Certification of Completion of Warranties". 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 shall be sent directly to the Public Works Department, 433 N. Virginia Street, Prescott, AZ 86301. The City project/contract number and project description shall 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.

- B. MAG Specifications, Sections 103.1 through 103.8, including: Unless otherwise specifically required by the Special Conditions, the minimum limits of public liability and property damage liability shall be as follows:
- C. Contractor shall 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 shall include bodily injury, property damage, broad form contractual liability and XCU coverage.

- General Aggregate \$ 3,000,000
- Products – Completed Operations Aggregate \$ 3,000,000
- Personal and Advertising Injury \$ 1,000,000
- Each Occurrence \$ 1,000,000
- Fire Legal Liability (Damage to Rented Premises) (if applicable) \$ 100,000

The policy shall be endorsed to include the following additional insured language:

“The Contractor agrees to endorse the City of Prescott as an Additional Insured on the Commercial General Liability with the following Additional Insured endorsement, or similar endorsement providing equal or broader Additional Insured coverage, the CG 2010 10 01 Additional Insured - Owners, Lessees, or Contractors, or CG2010 07 04 Additional Insured – Owners, Lessees, or Contractors – Scheduled Person or Organization endorsement in combination with the additional endorsement of GC2037 10 01 Additional Insured – Owners, Lessees, or Contractors – Completed Operations shall be required to provide back coverage for the contractor’s “your work” as defined in the policy and liability arising out of the products-completed operations hazard.”

Business Automobile Liability: Bodily Injury and Property Damage for any owned, hired, and/or non-owned vehicles used in the performance of this Contract.

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

The policy shall be endorsed to include the following additional insured language:

“The City of Prescott shall be named as additional insured with respect to liability arising out of the activities performed by or on behalf of the Contractor, involving automobiles, owned, leased, hired, or borrowed by the Contractor.”

Worker’s Compensation and Employer’s Liability

Workers’ Compensation	Statutory
Employer’s Liability	
Each Accident -	\$1,000,000
Disease – each employee -	\$1,000,000
Disease – policy limit -	\$1,000,000

Policy shall contain a waiver of subrogation against the City of Prescott for losses arising from work performed by or on behalf of the Contractor.

Professional Liability (Errors and Omissions Liability) – *if applicable*

Each Claim	\$ 1,000,000
Annual Aggregate	\$ 2,000,000

1. In the event that the professional liability insurance required by this Contract is written on a claims-made basis, Contractor warrants that any retroactive date under the policy shall precede the effective date of this Contract and that either continuous coverage will be maintained or an extended discovery period will be exercised for a period of two (2) years at the time work under this contract is completed.
2. The policy shall cover professional misconduct or lack of ordinary skill for those positions defined in the Scope of Work of this contract.

Notice of Cancellation: With the exception of a ten (10) day notice of cancellation for non-payment of premium, any changes material to compliance with this contract in the insurance policies above shall require a thirty (30) day written notice.

D. Such policy shall not exclude coverage for the following:

1. Injury to or destruction of any property arising out of the collapse of/or structural injury to any building or structure due to grading of land, excavation, borrowing, filling, backfilling, tunneling, pile driving, cofferdam work or caisson work.
2. Injury to or destruction of wires, conduits, pipes, mains, sewers, or other similar property or any apparatus in connection therewith, below the surface of the ground, if such injury or destruction is caused by and occurs during the use of mechanical equipment for the purpose of grading of land, paving, excavating, drilling; or injury to or destruction of any property at any time resulting there from.
3. Injury to or destruction of any property arising out of blasting or explosion.
4. Motor vehicle public liability and property damage insurance to cover each automobile, truck, and other vehicle used in the performance of the Contract in an amount of not less than \$1,000,000.00 for one person, and \$1,000,000.00 for more than one person, and property damage in the sum of \$1,000,000.00 resulting from any one accident which may arise from the operations of the Contractor in performing the work provided for herein.

E. The Contractor shall carry and maintain fire and extended coverage with an endorsement for vandalism and malicious mischief in Contractor’s name and also in the name of the City in an amount of at least ONE HUNDRED PERCENT (100%) of the Contract amount (if applicable).

F. The Contractor shall secure “all risk”-type builder's risk insurance for work to be performed. Unless specifically authorized by the City, the amount of such insurance shall not be less than ONE HUNDRED PERCENT (100%) of the contract price. Such policy shall include coverage for earthquake, landslide, flood, collapse, or loss due to the results of faulty workmanship, during the contract time and until final acceptance of work by the City (if applicable).

NOTICE TO PROCEED. The Contractor or subcontractor shall not work on any part of the project or incur any expenses or obligations until a Notice to Proceed has been issued by the City. The Notice to Proceed will be sent to the Contractor by first class mail or delivered to him in person.

ASSIGNMENT OF PAYMENTS. MAG Specifications, Section 109.3, including assignment of contract clause included in the “Information for Bidders” in this set of specifications.

CONSTRUCTION CONTRACT

Storage Tank Maintenance Program- Phase I South Tank Rehabilitation Project Contract No. **

THIS AGREEMENT, made and entered into this ** day of **, 2016, by and between ** of the City of **, County of **, State of Arizona, hereinafter designated “Contractor”, and the City of Prescott, a municipal corporation, organized and existing under and by virtue of the laws of the State of Arizona, hereinafter designated “City”.

WITNESSETH: That the said Contractor, for and in consideration of the sum to be paid him by the said City, and of the other covenants and agreements herein contained, and under the penalties expressed in the bonds provided, hereby agrees, for himself, his heir, executors, administrators, successors and assigns as follows:

ARTICLE I - SCOPE OF WORK: The Contractor shall furnish any and all labor, materials, equipment, transportation, utilities, services and facilities, required to perform all work for the construction of the project described as City of Prescott: Storage Tank Maintenance Program- Phase I South Tank Rehabilitation Project and install the material therein for the City, in a good and workmanlike and substantial manner and to the satisfaction of the City through its Engineers and under the direction and supervision of the Public Works Director, or his properly authorized agents and strictly pursuant to and in conformity with the Plans and Specifications prepared by the engineers for the City, and with such written modifications of the same and other documents that may be made by the City through the Public Works Director or his properly authorized agents, as provided herein.

ARTICLE II - CONTRACT DOCUMENTS: The Notice Inviting Bids, Plans, Technical Specifications, Special Provisions, Addenda, if any, Proposal and Insurance Requirements as accepted by the Mayor and Council per Council Minutes of **, 2016, Performance Bond, Payment Bond, Bid Bond, Certificate of Insurance and Contract Amendments, if any, are by this reference made a part of this Contract to the same extent as if set forth herein in full.

ARTICLE III - TIME OF COMPLETION: The Contractor hereby agrees to commence work on or before the tenth (10th) day after written notice to do so, and to fully complete the same within sixty (60) calendar days after the date of the written notice to commence work, subject to such extensions of time as are provided by the General Conditions.

ARTICLE IV - COMPENSATION: Contractor shall be paid, pursuant to the provisions as set forth in the Contract documents, the total sum of ** Dollars (\$**), plus any approved contract amendments, for the full and satisfactory completion of all work as set forth in the Project Specifications and Contract Documents. Retention shall be in accordance with A.R.S. § 34-221.

ARTICLE V - CONFLICT OF INTEREST: Pursuant to A.R.S. § 38-511, the City of Prescott may cancel this contract, without penalty or further obligation, if any person significantly involved in initiating, negotiation, securing, drafting or creating the contract on behalf of the City of Prescott is, at any time while the contract or any extension of the contract is in effect, an employee or agent of

any other party to the contract in any capacity or a consultant to any other party of the contract with respect to the subject matter of the contract. In the event of the foregoing, the City of Prescott further elects to recoup any fee or commission paid or due to any person significantly involved in initiating, negotiation, securing, drafting or creating this contract on behalf of the City of Prescott from any other party to the contract, arising as a result of this contract.

ARTICLE VI - AMBIGUITY: This Agreement is the result of negotiations by and between the parties. Although it has been drafted by the Prescott City Attorney, it is the result of the negotiations between the parties. Therefore, any ambiguity in this Agreement is not to be construed against either party.

ARTICLE VII - NONDISCRIMINATION: The Contractor, with regard to the work performed by it after award and during its performance of this contract, will not discriminate on the grounds of race, color, national origin, religion, sex, disability or familial status in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Contractor will not participate either directly or indirectly in the discrimination prohibited by or pursuant to Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Section 109 of the Housing and Community Development Act of 1974, the Age Discrimination Act of 1975, the Americans With Disability Act (Public Law 101-336, 42 U.S.C. 12101-12213) and all applicable federal regulations under the Act, and Arizona Governor Executive Orders 99-4, 2000-4 and 2009-09 as amended.

ARTICLE VIII - INDEPENDENT CONTRACTOR STATUS: It is expressly agreed and understood by and between the parties that the Contractor is being retained by the City as an independent contractor, and as such the Contractor shall not become a City employee, and is not entitled to payment or compensation from the City or to any fringe benefits to which other City employees are entitled other than that compensation as set forth in Article IV - Compensation above. As an independent contractor, the Contractor further acknowledges that he is solely responsible for payment of any and all income taxes, FICA, withholding, unemployment insurance, or other taxes due and owing any governmental entity whatsoever as a result of this Agreement. As an independent contractor, the Contractor further agrees that he will conduct himself in a manner consistent with such status, and that he will neither hold himself out nor claim to be an officer or employee of the City by reason thereof, and that he will not make any claim, demand or application to or for any right or privilege applicable to any officer or employee of the City, including but not limited to workmen's compensation coverage, unemployment insurance benefits, social security coverage, or retirement membership or credit.

ARTICLE IX - CITY FEES: Prior to final payment to the Contractor, the City shall deduct therefrom any and all unpaid privilege, license and other taxes, fees and any and all other unpaid moneys due the City from the Contractor, and shall apply to those moneys to the appropriate account. Contractor shall provide to the City any information necessary to determine the total amount(s) due.

ARTICLE X - LIQUIDATED DAMAGES: All time limits stated in the contract documents are of the essence and should the Contractor fail to complete the work required to be done on or before the time of completion as set forth in these contract documents, including any authorized extension of time, it is mutually agreed and understood by and between the parties that the public will suffer great damages; that such damages, from the nature of the project, will be extremely difficult and impractical to fix; that the parties hereto wish to fix the amount of said damages in advance; and that the sum of \$570.00 per day for each and every day's delay in completion and acceptance of the work required to be done by the Contractor subsequent to the time of completion, including any authorized extensions of time, is the nearest and most exact measure of damages for such breach that can be

fixed now or could be fixed at or after such breach and that, therefore, the Owner and Contractor agree to fix said sum of \$570.00 per day for each and every said day's delay as liquidated damages, and not as a penalty or forfeiture for the breach of the agreement to complete the work required to be done by the Contractor on or before the time of completion and acceptance and, in the case of such breach, the Owner shall deduct said amount from the amount due the Contractor under the contract. In the event the remaining balance due the Contractor is insufficient to cover the full amount of assessed liquidated damages, then the Contractor or the surety on the bonds shall pay the difference due the Owner.

ARTICLE XI - OTHER WORK IN PROJECT AREA: The City of Prescott, any other contractors, whether under contract with the City, a third party, and/or utilities, may be working within the project area while this Contract is in progress. The Contractor herein acknowledges that delays and disruptions may, and in all likelihood, will occur due to other work. The Contractor's bid shall be deemed to have recognized and included costs arising from and associated with other work in the project area disclosed by the Contract Documents or which would be apparent to an experienced contractor exercising due diligence during inspection of the project documents, the question and answer session in the pre-bid process or during site inspection. No payment will be made for any delays or disruptions in the work schedule that are wholly the fault of the contractor, its agents, employees or any of the contractor's subcontractors. In the event that the contractor encounters delay or disruption in the project schedule due to factors not wholly the fault of the contractor or within the contractors control then the Contract may be adjusted pursuant to the Delay's and Extension of Time provisions of this Contract and a timely request submitted for Contract Amendment. Failure to submit a timely request for Contract Amendment shall be deemed a waiver of any entitlement to additional compensation.

ARTICLE XII - BONDS:

- A. On or before the execution of the contract, the Contractor shall obtain in an amount equal to the full contract price a performance bond pursuant to A.R.S. § 34-222, conditioned upon the faithful performance of this contract in accordance with the plans, specifications and conditions herein. Such bond shall be solely for the protection of the City of Prescott. A copy of this bond shall be filed with the Prescott City Clerk.
- B. Contractor shall also obtain a payment bond, pursuant to the provisions of A.R.S. § 34-222, in an amount equal to this full contract price herein, said bond to be solely for the protection of claimants supplying labor or materials to the Contractor or his subcontractors in the prosecution of the work provided for in this contract. A copy of this bond shall be filed with the Prescott City Clerk.
- C. All bonds must be written by an insurance company authorized to do business in the State of Arizona, to be evidenced by a Certificate of Authority as defined in A.R.S. § 20-217, a copy of which certificate is to be attached to the applicable bid bond, payment bond and performance bond. In addition, depending upon the nature of the contract and amount thereof, the City Manager may also require insurance companies and/or bonding companies to have an "A" rating or better with Moody's or A.M. Best Company, and/or to be included on the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended) by the audit staff, Bureau of Accounts, US Treasury Department.

ARTICLE XIII - MISCELLANEOUS:

- A. The parties hereto expressly covenant and agree that in the event of a dispute arising from this Agreement, each of the parties hereto waives any right to a trial by jury. In the event of litigation, the parties hereby agree to submit to a trial before the Court. The Contractor further agrees that this provision shall be contained in all subcontracts related to the project, which is the subject of this Agreement.
- B. The parties hereto expressly covenant and agree that in the event of litigation arising from this Agreement, neither party shall be entitled to an award of attorney fees, either pursuant to the Contract, pursuant to A.R.S. § 12-341.01 (A) and (B), or pursuant to any other state or federal statute, court rule, case law or common law. The Contractor further agrees that this provision shall be contained in all subcontracts related to the project that is the subject of this Agreement.
- C. Any notices to be given by either party to the other must be in writing, and personally delivered or mailed by prepaid postage, at the following addresses:

Public Works Director	**
City of Prescott	**
433 N. Virginia Street	**
Prescott, AZ 86301	

- D. This Agreement shall be construed under the laws of the State of Arizona.
- E. This Agreement represents the entire and integrated Agreement between the City and the Contractor and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both the City and the Contractor. Written and signed amendments shall automatically become part of the Agreement, and shall supersede any inconsistent provision therein; provided, however, that any apparent inconsistency shall be resolved, if possible, by construing the provisions as mutually complementary and supplementary.
- F. In the event any provision of this Agreement shall be held to be invalid and unenforceable, the remaining provisions shall be valid and binding upon the parties. One or more waivers by either party of any provision, term, condition or covenant shall not be construed by the other party as a waiver of a subsequent breach of the same by the other party.
- G. No oral order, objection, claim or notice by any party to the other shall affect or modify any of the terms or obligations contained in this Agreement, and none of the provisions of this Agreement shall be held to be waived or modified by reason of any act whatsoever, other than by a definitely agreed waiver or modification thereof in writing. No evidence of modification or waiver other than evidence of any such written notice, waiver or modification shall be introduced in any proceeding.
- H. In the event of a discrepancy between this Agreement and other documents incorporated into this Agreement, this Agreement shall control over Exhibit "A".
- I. Non-Availability of Funds: Fulfillment of the obligation of the City under this Agreement is conditioned upon the availability of funds appropriated or allocated for the performance of such obligations. If funds are not allocated and available for the continuance of this Agreement, this Agreement may be terminated by the City at the end of the period for which the funds are available. No liability shall accrue to the City in the event this provision is exercised, and the

City shall not be obligated or liable for any future payments as a result of termination under this paragraph.

IN WITNESS WHEREOF, three (3) identical counterparts of this Contract, each of which shall for all purposes be deemed an original thereof, have been duly executed by the parties herein above named, on the date and year first above written.

ATTEST:

Witness, if Contractor is an Individual

Contractor

By: _____

Title: _____

City of Prescott, a municipal corporation:

Harry B. Oberg, Mayor

Attest:

Approved as to Form:

Dana R. DeLong, City Clerk

Jon M. Paladini, City Attorney

GENERAL CONDITIONS

COMMENCEMENT, PROSECUTION AND PROGRESS

PRECONSTRUCTION CONFERENCE

Within 15 days of the date of the Notice of Award, the Contractor is required to attend a Pre-construction Conference. The City will contact the Contractor to schedule a specific date, time and location for the Pre-construction Conference. The purpose of the meeting is to outline specific construction items and procedures and to address items, which require special attention on the part of the Contractor. The Contractor may also present proposed variations in procedures, which the Contractor believes may be of benefit to the project, reduce cost, or will reduce inconvenience to the public. Communication and coordination issues will be also addressed during the Pre-construction Conference. The Contractor will be required to provide five sets of the following information at the Pre-construction Conference:

- A. Names and emergency telephone number of key personnel involved in the project.
- B. A copy of each subcontractor's contract or purchase order agreement for each and every item of work under subcontract on the project.
- C. The Construction Schedule as defined elsewhere in the General Conditions.
- D. A payment schedule showing the estimated dollar volume of work for each calendar month during the life of the project.
- E. The Traffic Control and access management plan providing for continuous access to residents and businesses affected by the project.
- F. The Contractor's Company Safety Plan.
- G. The Contractor's Quality Control Plan.
- H. An itemized list of shop drawings, materials, mix designs, equipment submittals and a schedule indicating the dates each of these items will be transmitted to the Public Works Director for review.

Each of the above items is subject to review and approval by the Public Works Director.

COMMENCEMENT

The Contractor shall commence work on or before the tenth (10th) calendar day after receiving the Notice to Proceed, and shall complete all work under the Contract within the period of time specified in the Special Conditions. The City reserves the right to issue Notice to Proceed at any time between zero (0) and sixty (60) days after contract award. Notice to Proceed will be issued not later than sixty (60) calendar days after the Contract has been awarded unless otherwise agreed upon in writing, or as may be specified in the Special Conditions. In addition, Contractor shall not commence work until all required documents, bonds, plans and schedules have been received and approved by the City. These submittals will not affect the issuance of Notice to Proceed by the City.

PUBLIC NOTICE

- A. Contractor shall issue written notification to those residents affected by the Storage Tank Maintenance Program- Phase I South Tank Rehabilitation Project. This notification shall contain at a minimum: (1) Type of Work; (2) Contractor; (3) Contractor's Phone Number and Point of Contact; (4) Duration of Project; (5) Date Project Commences; (6) Description of Project Site; (7) Contractor's After-hours Point of Contact and Phone Number.

- B. The Contractor is required to post public notification signs at all entrances to the project specifying the following information: (1) Project Name/Description (2) Construction Calendar (3) Contractor Name/Phone Number Day and Night (4) City Public Works (928) 777-1130.
- C. The sign size and legend shall be appropriate for the intended purpose and be easily read. Sign background shall be blue with white letters. The sign size and legend content shall be approved by the Public Works Department prior to sign manufacture. All signs shall be posted prior to commencement of any work on the project. Signs will be removed by the contractor upon final acceptance of the project. No direct payment shall be made for said signs, cost of such shall be considered incidental to the contract.

SUBCONTRACTORS

MAG Specifications, Section 108.2, including the following:

- A. All subcontractors and purchase orders for equipment shall state and establish guaranteed delivery dates, at such times as determined by the Contractor, which will allow the Contractor to complete the project within the Contract time.
- B. The Contractor shall perform more than forty percent (40%) of the work (by total contract amount) involved in this project with his own forces. Total subcontracted amounts shall be limited to less than sixty percent (60%) of the total contract amount. For purposes of this requirement, materials purchased directly from suppliers and installed by the Contractor's own forces shall be included in the Contractor's total and materials installed by subcontractors, regardless of who originally purchased them, will be included in the Subcontractors totals.
- C. The Contractor shall furnish the form list of subcontractors with his bid including the estimated amount of each subcontract. Additionally, a duplicate copy of each subcontract, including lower tier subcontracts, shall be delivered to the Public Works Director upon award of the project and prior to the issuance of the Notice to Proceed.

CONTRACTOR'S REPRESENTATIVE AND EMERGENCIES

MAG Specifications, Section 105.5, including: Plans and specifications to successful bidder clause in the "Information for Bidders" in this set of specifications.

CONTRACTOR AND SUBCONTRACTOR RECORDS

- A. The Contractor shall keep at the work site a copy of the Contract Documents and shall at all times give the Public Works Director access thereto.
- B. The Notice Inviting Bids, Information for Bidders, Special Conditions, Specifications, Plans, and all supplementary documents are intended to be complete and complementary and to prescribe a complete work. If any omissions are made of information necessary to carry out the full intent and meaning of the contract documents, the Contractor shall immediately call the matter to the attention of the Public Works Director for furnishing of detailed instructions. In case of discrepancies, the Specifications shall govern over the plans. Figured dimensions shall govern over scaled dimensions.
- C. Any drawings or plans listed anywhere in the Specifications or Addenda thereto shall be regarded as a part thereof and of the Contract. Anything mentioned in these Specifications and not indicated on the plans, or anything indicated on the plans and not mentioned in these Specifications, shall be in the same force and effect as if indicated or mentioned in both.

- D. The Contractor, subcontractors and all suppliers shall keep and maintain all books, papers, records, files, accounts, reports, bid documents with back-up data, including electronic data, and all other material relating to the contract and project for three years following completion and acceptance of the work. All records shall be accurately maintained in accordance with generally accepted accounting principles and practices uniformly and consistently applied in a format that will permit audit. The Public Works Director or his authorized representative(s) shall have access at all reasonable times to all applicable records of the Contractor and the records of the Contractor's subcontractors.

The Contractor and Subcontractors shall preserve all such materials for a period of three years after all payments to the Contractor or subcontractors, or until the final resolution of all claims made by the Contractor or subcontractor on this contract, whichever is later. The Contractor and subcontractors shall make all of the above materials available to the Public Works Director for auditing, inspection and copying and shall produce such materials upon written request at the office of the Public Works Director located at 433 N. Virginia St., Prescott Arizona.

The Contractor shall insert the above requirement in each subcontract, purchase order, lease agreement, or other document under which goods or services are provided for the performance of this contract and shall also include in all subcontracts a clause requiring subcontractors to include the above requirement in any lower-tier subcontract, purchase order, lease agreement or document under which goods or services are provided for the performance of this contract.

ADDENDA, REVISIONS AND SUPPLEMENTARY DRAWINGS

- A. The work shall conform to such other drawings relating thereto as may be furnished by the City prior to the opening of proposals, and to such drawings in the explanation of details or minor modifications as may be furnished from time to time during construction, including such minor modifications as the Public Works Director may consider necessary during the prosecution of the work.
- B. Scaled dimensions shall not be used in the construction of the work.

ERROR AND OMISSIONS

The written dimensions, calculations and quantities on the plans are presumed to be correct, but the Contractor shall be required to check carefully all dimensions, calculations and quantities before beginning work. If any errors or omissions are discovered, the Public Works Director shall be so advised in writing and will make the proper corrections. If the Contractor claims that any such errors or omissions should change the cost of any Pay Item or the construction as identified in the plans, the Contractor shall also submit to the Public Works Director a written proposed Contract Amendment. Any such adjustments made by the Contractor that are claimed to change the cost of any Pay Item or the construction as identified in the plans, without prior review and acceptance of a proposed Contract Amendment, shall be at the Contractor's own risk. The settlement of any complications or disputed expenses arising from a Contractor's adjustment shall be borne by the Contractor at his own expense.

CHARACTER OF WORKMEN

MAG Specifications, Section 108.6.

SUSPENSION OF WORK

- A. The Public Works Director shall have the authority to suspend the work wholly or in part, for such period as he may deem necessary, due to unsuitable weather, or to such other conditions as

are considered unfavorable for the suitable prosecution of the work, or for such time as he may deem necessary due to the failure on the part of the Contractor to carry out orders given, or to perform any provisions of the Contract. The Contractor shall immediately comply with the written order of the Public Works Director to suspend work wholly or in part. The suspended work shall be resumed when conditions are favorable and methods are corrected, as reviewed and accepted in writing by the Public Works Director.

- B. In case of suspension of work for any cause whatsoever, the Contractor shall be responsible for all materials and shall properly store them if necessary and shall provide suitable drainage and erect temporary structures where necessary.
- C. If the performance of all or any portion of the work is suspended or delayed by the Public Works Director in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the Public Works Director, in writing, a request for an adjustment within seven (7) calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.
- D. Upon receipt, the Public Works Director will evaluate the contractor's request. If the Public Works Director agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the Public Works Director will make an adjustment (excluding profit) and modify the contract in writing accordingly. The contractor will be notified of the Public Works Director's determination whether or not an adjustment of the contract is warranted. In the event an adjustment of the contract is warranted a contract amendment shall be executed by both parties evidencing mutual agreement to same.
- E. No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time limits prescribed.
- F. No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

DELAYS AND EXTENSION OF TIME

MAG Specifications, Section 108.7, including:

- A. It is the Contractors responsibility to establish construction methods and a construction schedule, which will facilitate the completion of work required by this Contract within the contract period and with full consideration for the season during which the work is scheduled. Judgment as to hazardous conditions shall be made by the Public Works Director.
- B. To receive consideration for an extension of time, a request must be made in writing to the Public Works Director stating the reason for said request, and such request must be received by the Public Works Director as soon as reasonably practicable when the contractor has knowledge or should have known of the delay causing event, condition or circumstances, but in no event later than immediately following the end of the delay-causing condition. The extension of time allowed shall be as determined by the Public Works Director and approved by the City. In setting the Contract time, it has been assumed that up to five (5) working days may be lost as a result of weather conditions which will slow down the normal progress of work; therefore no extensions

in contract time will be allowed for the first five (5) working days lost due to bad weather conditions. An extension of time may be granted by the City after the expiration of the time originally fixed in the Contract or as previously extended, and the extension so granted shall be deemed to commence and be effective from the date of such expiration.

- C. Any extension of time shall not release the sureties upon any bond required under the Contract. Extensions of time in and of themselves will not be a basis for a request of additional compensation by the Contractor.
- D. Any delays in this project, or extensions of time which may be granted, shall not entitle the Contractor to any additional compensation or monies whatsoever, including but not limited to compensation for loss of anticipated profits, extended overhead, unabsorbed home office overhead, or any other payments, unless expressly agreed to by the City in a duly executed and approved contract amendment.

PAYMENT FOR DELAY

MAG 109.8 except as modified hereafter:

109.8.2, (B) Any compensation paid to the Contractor shall be in accordance with the General Conditions, Payment to Contractors, section of this Contract.

109.8.3 Extension of Contract Time: For any such delays, the contract time will be adjusted in accordance with the General Conditions, Delays and Extension of Time, section of this Contract.

TERMINATION FOR BREACH OF CONTRACT

MAG Specifications, Sections 108.10 and 108.11, including: The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to the City.

METHODS AND EQUIPMENT

MAG Specifications, Section 108.6, including: The methods and equipment adopted by the Contractor shall be such as will secure a satisfactory quality of work and will enable the Contractor to complete the work in the time agreed upon. The selection and use of these methods and equipment is the responsibility of the Contractor.

DATE OF ACTUAL COMPLETION

The date upon which the project will be considered as complete shall be that date upon which the work is accepted by the City.

FINAL ACCEPTANCE

MAG Specifications, Section 105.15 (B), including:

- A. After all work under the Contract has been completed, as determined by the Public Works Director, the Public Works Director will recommend in writing to the City that final acceptance of the entire work under this Contract be made as of the date of the Public Works Director final inspection. The City will make final acceptance promptly after receiving the Public Works Director's recommendation.
- B. Partial Acceptance may be given upon substantial completion of the work at the sole discretion of the Public Works Director in accordance MAG 105.15 and the paragraph entitled PARTIAL ACCEPTANCE OF WORK in these General Conditions.
- C. For the purpose of this section, Substantial Completion shall mean that stage in the progress of the Work where the Work or designated portion is sufficiently complete in accordance with the

Contract Documents so that the Owner can occupy or utilize the Work for its intended use with only minor work items or cleanup items remaining to be accomplished. Partial Acceptance shall not be given for incomplete major work items nor minor work items affecting public health and safety.

- D. Contract Time accounting and/or Assessment of Liquidated Damages shall be suspended on the date of Partial Acceptance and the Contractor shall complete all remaining work items necessary for Final Acceptance within 30 calendar days of the date of Partial Acceptance. The City shall withhold release of retention until all items under the contract have been completed and Final Acceptance has been issued.

SAFETY, HEALTH AND SANITATION PROVISIONS

MAG Specifications, Section 107.5, including:

- A. The Contractor shall provide suitable and adequate sanitary conveniences for the use of all persons employed on the project. All sanitary conveniences shall conform to the regulations of the public authority having jurisdiction over such matters. At the completion of the project, all such sanitary conveniences shall be removed and the premises left in a sanitary condition.
- B. On all projects, with respect to sanitation facilities, for which Federal funds are allocated, the Contractor shall cooperate with and follow directions of representatives of the Public Health Service and the State. State and County public health service representatives shall have access to the work wherever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and inspection.

TRAFFIC CONTROL

Traffic control is the responsibility of the Contractor and shall be in accordance with MAG Specifications, Section 401. The Contractor shall submit to the City of Prescott, for approval, a traffic control plan for all activities connected with the proposed work.

WATER

- A. The Contractor shall supply adequate, pure cool drinking water with individual drinking cups for the use of employees on this construction. The quality of drinking water shall meet the "Standards for Public Water Supplies" specified in the State Health Department Code.
- B. It shall be the responsibility of the Contractor to provide and maintain, at his own expense, an adequate supply of water for his use for construction and to install and maintain necessary supply connections and piping for same. Before final acceptance of the completed project, all temporary connections and piping installed by the Contractor shall be removed.
- C. The Contractor shall apply for a fire hydrant meter for all construction water used if the Contractor desires to obtain water from the City of Prescott distribution system at any point. All contractors requesting construction water from the City must submit a Construction Water Meter Application to the Water Distribution Department. A \$1,000 deposit will be required for hydrant meters. If construction water use occurs during the months of May through September the Contractor shall also include a dust abatement program. Potable water may not be allowed for dust abatement during these months. Potable water can be used to process embankment fill and base materials year round. However, contractors are encouraged to use treated effluent for construction activities. The City of Prescott has two outlets for effluent, the Sundog Wastewater Treatment Plant and the Airport Wastewater Treatment Plant. The City will provide metered standpipes for effluent at both plants. The Contractor will be required to estimate daily and total

potable/effluent water usage for the project as identified on the Construction Water Meter application. The Contractor will be responsible for all costs associated with obtaining and delivering construction water.

PROTECTION OF WORK

MAG Specifications, Section 107.10.

CLEANUP AND DUST CONTROL

MAG Specifications, Sections 104.1.3 and 104.1.4, including: Salvage material shall be stored at areas designated by the Public Works Director.

GUARANTEE OF WORK

MAG Specifications, Section 108.8, shall apply, but modify: Guarantee period is two (2) years. During the two year guarantee period, should the Contractor fail to remedy defective material and/or workmanship, or to make replacements within five (5) calendar days after written notice by the City, it is agreed that the City may make such repairs and replacements and the actual cost of the required labor and materials shall be chargeable to and payable by the Contractor.

CONTINGENCIES

All loss or damage arising from obstruction or difficulties which may be encountered in the prosecution of the work, from the action of the elements, or from any act or omission on the part of the Contractor or any person or agent employed by him shall be borne by the Contractor.

NOTICE AND SERVICE THEREOF

Any notice to the Contractor from the City relative to any part of this Contract shall be in writing and considered delivered and the service thereof completed when said Notice is posted, by first class mail, to the said Contractor at his last given address, or delivered in person to said Contractor or his authorized representative on the work.

PROJECT MEETINGS

- A. It shall be the responsibility of the Contractor to conduct weekly meetings to be attended by representatives of Subcontractors, utilities, the Public Works Director and other interested parties for the purpose of keeping the project on schedule and to provide for necessary coordination of the work of the various parties. The Contractor shall take minutes at each meeting for distribution to all attendees the following week. The minutes shall be of sufficient detail to accurately recount the meeting discussion, including but not limited to progress, work schedule, submittals and certifications, utilities, construction issues, contract changes, safety and traffic control, action items, resolved and unresolved issues.
- B. Additionally the Contractor shall furnish the Public Works Director with written weekly project status reports at the beginning of each weekly project meeting. The report shall cover the work of the preceding work week and shall include the following for each week.
 1. A comprehensive daily list of the Contractor's men and equipment performing the work on the jobsite.
 2. A comprehensive daily list of Contractor's subcontractors' men and equipment, if any, performing the work on the jobsite.
 3. A brief description of the work performed by the Contractor and Contractor's subcontractors, if any.

4. The estimated percentage of each portion of the work performed for the period together with the total percentage of each portion of the work performed to the date of the report.
5. A detailed summary of each work stoppage, if any, occasioned by the City of Prescott, other contractors, or other designated reasons, which were beyond the contractor's control.
6. Comments or exceptions to prior weekly meeting minutes shall be addressed at each subsequent construction meeting.

CONSTRUCTION SCHEDULE

Per MAG Specifications, Section 108.4 and Section 108.5, including:

- A. The Construction schedule shall indicate the time of starting and completing each major phase of the project and such intermediate phases as will serve for well-defined control points. The schedule shall be of sufficient detail to define the Critical Path for project completion. It shall also indicate the scheduled receipt of major items of equipment and the items of equipment installation dates of which is critical to the scheduled progress of the project. Two week look-ahead schedules will be provided by the contractor at each weekly construction meeting. The comprehensive project schedule shall be updated and submitted monthly. Such updates shall include and accurately reflect additional work, changes in the work, delays to individual items of work and reasons therefore along with the extent of delay and any other items affecting the progress of the project.
- B. Failure by the contractor to provide the weekly/monthly updates will result in the City withholding an amount equal to 5% of the monthly pay estimate relative to the billing period in which the schedule updates are to be provided. Said 5% withholding will be retained by the City until the required schedule updates are submitted by the Contractor, reviewed by the City and found to be current. When the schedule updates are determined to be in conformance with the provisions herein the 5% retainer will be released with the next monthly payment.
- C. The construction schedule shall serve as an index of progress prosecution as contemplated by the Contractor. In the event the actual construction progress varies substantially from the scheduled progress, the Public Works Director will require and the Contractor shall be required, within ten (10) calendar days written notice, to provide a revised construction schedule, giving in detail the particular changes in production as estimated by the Contractor to complete the work within the specified Contract Time. Time is of the essence in this regard.

ACCIDENT PREVENTION

MAG Specifications, Section 107.5 and 107.6 including:

- A. Machinery, equipment and other hazards shall be guarded or eliminated in accordance with the safety provisions of the Manual of Accident Prevention in Construction published by the Associated General Contractors of America, and the requirements of the Occupational Safety and Health Administration.
- B. First aid facilities and information posters conforming at least to the minimum requirements of the Occupational Safety and Health Administration shall be provided in a readily accessible location or locations.
- C. The Contractor shall make all reports as are, or may be, required by the Engineer or any authority having jurisdiction, and permit all safety inspections of the work being performed under this Contract. Before proceeding with any construction work, the Contractor shall take all the necessary action to comply with all provisions for safety and accident prevention. In the event the

Contractor fails to comply with said safety provisions or directions of the Public Works Director, the Public Works Director without prejudice to any other rights of the City, may issue an order stopping all or any part of the work.

- D. Thereafter, a start order for resumption of the work may be issued at the discretion of the Public Works Director when in his opinion the defection from safety requirements has been corrected. The Contractor shall make no claim for an extension of time or for compensation or damages by reason of or in connection with such work stoppage.

CONSTRUCTION FACILITIES

All construction hoists, elevators, scaffolds, stages, shoring, and similar temporary facilities shall be of ample size and capacity to adequately support and/or move the loads to which they will be subjected. All railings, enclosures, safety devices, and controls required by law or for adequate protection of life and property shall be provided.

TEMPORARY FACILITIES

The Contractor shall provide all temporary facilities and utilities required for prosecution of the work; protection of employees and the public; protection of the work from damage by fire, weather or vandalism; and such other facilities as may be specified or required by any legally applicable law, ordinance, rule, or regulation.

WARNING DEVICES AND BARRICADES

Per MAG Specifications, Section 107.7.

HAZARDS IN PUBLIC RIGHT-OF-WAY

Per MAG Specifications, Section 107.7.

HAZARDS IN PROTECTED AREAS

Excavations on project sites from which the public is to be excluded shall be marked or guarded in a manner appropriate for the hazard.

PROTECTION OF EXISTING ITEMS

The Contractor shall protect all existing structures, trees, shrubs, and other items on the project site that are to be preserved, by substantial barricades or other devices commensurate with the hazard, from injury or destruction by vehicles, equipment, workmen, or other agents.

PROJECT SECURITY

The Contractor shall make adequate provision, subject to the approval of the Public Works Director, to protect the project and Contractor's facilities from fire, theft, and vandalism, and the public from unnecessary exposure to injury.

FIRE EXTINGUISHER

At least one (1) fire extinguisher, rated at least 2A, shall be provided on the job site.

OFF-SITE ROADS

Except as otherwise shown or specified, off-site access roads shall be adequately maintained, graded-earth roads. Such roads shall be built only in the public right-of-way or easements obtained by the City. If the Contractor elects to build along some other alignment, he shall obtain, without additional cost to the City, necessary rights-of-way or easements.

NOISE ABATEMENT

In inhabited areas, particularly residential, operations shall be performed in a manner to minimize unnecessary noise generation. Particular consideration shall be given to noise generated by repair and service activities during the night hours in residential areas. No repair or service activities shall be conducted between the hours of 6:00 p.m. and 7:00 a.m.

DRAINAGE CONTROL

In excavation, fill, and grading operations, care shall be taken to disturb the pre-existing drainage pattern as little as possible. Particular care shall be taken not to direct drainage water onto private property or into streets or drainage ways inadequate for the increased flow.

PROJECT CLOSE-OUT

It is the intent of these Specifications and Contract Documents that the Contractor shall deliver a complete and operable facility capable of performing its intended functions and ready for use. The City shall withhold Final Payment and release of retention until ALL of the following items have been completed:

- A. Completion of all work, including punch-list items and Final Acceptance of the work by the City.
- B. Submittal by Contractor of final pay estimate, which shall show the amount of work performed according to the Contract and approved by the City.
- C. Submittal by the Contractor of all Project Record Documents, including As-Built drawings, operation and maintenance manuals, and other records as referenced herein.
- D. Submittal by Contractor of CONTRACTOR'S AFFIDAVIT REGARDING SETTLEMENT OF CLAIMS AND CERTIFICATION OF COMPLETION AND WARRANTIES.
- E. Closeout of any and all permits issued to the Contractor by the City or any other agency for the work included in the project.
- F. Submittal by Contractor of EPA SWPPP Notice of Termination (if applicable).

WASTE DISPOSAL, GRADING AND MATERIAL STORAGE

- A. The Contractor shall provide for the disposal of all surplus materials, waste products, debris, etc., and shall make necessary arrangements for such disposal. The Contractor shall obtain written permission from property owners(s) prior to disposing of any surplus materials, waste products, debris, etc., on private property, and shall also obtain the approval of the Public Works Director prior to such disposal.
- B. The Public Works Director will not approve the filling of ditches, washes, drainage ways, etc., which may in his opinion create water control problems.
- C. The Public Works Director will not approve disposal operations, which will, in his opinion, create unsightly and/or unsanitary nuisances.
- D. The Contractor shall maintain the disposal site(s) in a reasonable condition of appearance and safety during the construction period as required by the Public Works Director. Prior to final acceptance of the project, the Contractor shall have completed the leveling and cleanup of the disposal site(s) to the satisfaction of the Public Works Director.
- E. The Contractor shall obtain a grading permit or any other permit required by the City, Yavapai County or any other county, or State or federal rules, regulations, laws, ordinances, or any other

regulatory authority for all construction operations of the Project, including but not limited to the following:

1. Areas disturbed by the Contractor, including staging areas, borrow areas, waste areas, or material storage areas, located within the City limits that are subject to any requirements of the City Code or City Land Development Code, including but not limited to Section 6.7 – Site Disturbance, Grading and Restoration Standards, of the City of Prescott Land Development Code; Section 9.6 – Site Disturbance and Grading Permit, or Chapter 16-2: DRAINAGE REGULATIONS;
2. Areas outside of the City limits that are subject to the requirements of Yavapai County for any activities described in this section, “WASTE DISPOSAL”;
3. The disposal of waste material on private property dependent upon site specific conditions at the waste area(s) and characteristics of the fill in accordance with Paragraph 1. The fees for a permit for this activity shall not be waived; said fees are incidental to the appropriate bid item(s);
4. The staging or material storage area(s) that:
 - a. Are not City owned property on the project, or
 - b. Require clearing or grubbing in excess of 10,000 sf.Fees for a permit(s) for this activity shall not be waived; said costs are incidental to the appropriate bid item(s).
5. Site disturbances for infrastructure improvements on City owned property not within the right-of-way for which the disturbance is greater than 50 cubic yards of material or in excess of 10,000 square feet. The associated fees for grading permits for this activity on City owned property shall be waived.

PROJECT RECORD DOCUMENTS

- A. The Contractor shall maintain at the site, available to the City and Engineer, one (1) copy of all Drawings, Specifications, Addenda, approved Shop Drawings, Change of Orders, and other modifications in good order and marked to record all changes made during construction. These shall be delivered to the City upon completion of the Project or the earlier termination of the parties' contract.
- B. The contractor shall maintain any and all documentation to substantiate all costs on the project, including but not limited to those items included in “Force Account” computations, computations reflecting the actual cost of work on the project and computations substantiating any claimed increases or additional costs incurred in the project by the contractor, and shall make those records available to the City (or provide copies thereof to the City) within 24 hours of request by the City. The failure of the Contractor to maintain and produce the foregoing documentation will preclude the Contractor from being entitled to any additional payments for any additional work in question.

CONTROL OF WORK

ABBREVIATIONS

MAG Specifications, Section 101.1, including abbreviations as shown on the Plans.

AUTHORITY AND DUTIES OF INSPECTOR

Per MAG Specifications, Section 105.9, including:

- A. An inspector is to be assigned to the project by the City to monitor the project and to keep the Public Works Director informed as to the progress of the work and the manner in which it is being done. Additionally, the inspector will call the Contractor's attention to any non-conformance with the Plans and Specifications. He will not be authorized to approve or accept any portion of the work or to act as foreman for the Contractor. Inspection will be done on an as needed or on-call basis.
- B. The inspector will exercise such additional authority only as may from time to time be delegated to him by the Public Works Director.

INSPECTION

MAG Specifications, Section 105.10, including:

Inspection is to be done by the City of Prescott Public Works Department. The Contractor shall furnish the Public Works Director with every reasonable facility for ascertaining whether or not the work as performed is in accordance with the requirements and intent of the Specifications and Contract. If the Public Works Director requests it, the Contractor at any time before acceptance of the work shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standards required by the Specifications. Should the work thus exposed or examined prove acceptable, the uncovering or removing and the replacing of the covering or making good of the part removed will be paid for as provided under CHANGES IN THE WORK, but should the work so exposed or examined prove unacceptable, the uncovering or removing and the replacing of the covering or making good of the parts removed shall be at the Contractor's expense. Inspection or supervision by the Public Works Director shall not be considered as direct control of the individual workman and his work. The direct control shall be solely the responsibility of the Contractor's foreman and superintendent.

AUTHORITY OF THE ENGINEER

MAG Specifications, Section 105.1 with the following exception: References to "the Engineer" shall mean Public Works Director.

PLANS

- A. The Contract Plans consist of general drawings. These indicate such details as are necessary to give a comprehensive idea of the construction contemplated. All authorized alterations affecting the requirements and information given on the Contract Plans shall be in writing. The Contract Plans shall be supplemented by such working or shop drawings prepared by the Contractor as are necessary to adequately control the work. No change shall be made by the Contractor in any working or shop drawing after it has been accepted by the Public Works Director.
- B. The Contractor shall keep a copy of the Plans and Specifications at the job site, and shall at all times give the Public Works Director access thereto. Any drawings or plans listed in the Detailed Specifications shall be regarded as a part thereof and the Public Works Director will furnish from time to time such additional drawings, plans, profiles, and information as he may consider necessary for the Contractor's guidance.
- C. All authorized alterations affecting the requirements and information given on the accepted plans shall be in writing. No changes shall be made of any plan or drawing after the same has been

accepted by the Public Works Director except by consent of the Public Works Director in writing.

CONFORMITY WITH PLANS AND ALLOWABLE DEVIATIONS

MAG Specifications, Section 105.3.

COORDINATION AND INTERPRETATION OF PLANS AND SPECIFICATIONS

MAG Specifications, Section 105.4, including:

- A. In the event of any doubt or question arising regarding the true meaning of these Specifications, Special Provisions, or the Plans, reference shall be made to the Public Works Director, whose decision thereon shall be final. In the event of any discrepancy between any drawing and the figures written thereon, the figures shall be taken as correct.
- B. In the event of there being a conflict between one contract document and any of the other contract documents the document highest in precedence shall control and supersede the document which is contrary to it. The order of precedence of the contract documents is as follows:
 - 1. Supplemental Agreements, the last in time being the first in precedence.
 - 2. The formal Contract.
 - 3. Notice Inviting Bids.
 - 4. Information for Bidders.
 - 5. Special Provisions.
 - 6. Technical Specifications.
 - 7. Plans.
 - 8. General Conditions.
 - 9. Contractor Proposal.

ORDER OF WORK

- A. When required by the Contract Documents, the Contractor shall follow the sequence of operations as set forth therein.
- B. Full compensation for conforming to such requirements will be considered as included in the prices paid for contract items of work and no additional compensation will be allowed therefore.

CONSTRUCTION STAKES, LINES AND GRADES

MAG Specifications, Section 105.8.

REMOVAL OF UNACCEPTABLE AND/OR UNAUTHORIZED WORK

MAG Specification, Section 105.11.

MAINTENANCE DURING CONSTRUCTION

MAG Specifications, Section 105.12.

COOPERATION BETWEEN CONTRACTORS

The City of Prescott reserves the right at any time to contract for and perform other additional work on or near the work covered by the contract.

When separate contracts are let within the limits of any one project, each contractor shall conduct his work so as not to interfere with or hinder the progress or completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

The Contractor shall arrange his work and shall place and dispose of the materials being used so as not to interfere with the operations of the other Contractors within the limits of the same project. He shall join his work with that of others in an acceptable manner and shall perform it in proper sequence to that of others.

The City of Prescott will not honor any claim for extra compensation due to delays, extra work, or extension of time caused by any other Contractors working within the limits of the same project.

COORDINATION OF WORK

- A. Prior to starting construction, the Contractor shall submit their construction schedule to the Public Works Director for approval.
- B. It shall be the responsibility of the Contractor to maintain overall coordination of the project. Based on the general contract construction schedule prepared in accordance with these Specifications, the Contractor shall obtain from each of his Subcontractors a similar schedule and shall be responsible for all parties maintaining these schedules or for coordinating changes necessitated by unforeseen difficulties.

LINES AND GRADES

All work under this Contract shall be built in accordance with the detailed scope of work.

MATERIALS AND WORKMANSHIP

GENERAL

MAG Specifications, Section 106.1, including:

- A. Where equipment, materials, or articles are referred to in the Specifications as “or equal”, or “equal to” any particular standard, the Public Works Director shall decide the question of equality.
- B. Wherever any standard published specification is referred to, the latest edition or revision, including all contract amendments, shall be used unless otherwise specified. Materials of a general description shall be the best of their several kinds, free from defects, and adapted to the use for which provided. The physical characteristics of all materials not particularly specified shall conform to the latest standards published by the American Society for Testing and Materials, where applicable. All material shall be new and of the specified quality and equal to the accepted samples, if samples have been submitted.
- C. All work shall be done and completed in a thorough, workmanlike manner notwithstanding any omission from these Specifications or from the Plans; and it shall be the duty of the Contractor to call the Public Works Director's attention to apparent errors or omissions and request instructions before proceeding with the work. The Public Works Director may, by appropriate instructions, correct errors and supply omissions, which instructions shall be binding upon the Contractor as though contained in the original Specifications or Plans.

SUBSTITUTION OF MATERIAL OR EQUIPMENT

MAG Specifications, Section 106.4, including: Requests relative to substitutions for materials or equipment specifically designated on the Plans or in the Specifications shall be made in writing, and such requests shall be accompanied by complete data on which the Public Works Director can make determination on the merits of the proposed substitution. The written request shall state how the product proposed for a substitution compares with or differs from the designated product in composition, size, arrangement, performance, etc., and in addition, the request shall be accompanied by documentary evidence of equality in price and delivery or evidence of difference in price and delivery. Data on price shall be in the form of certified quotations from suppliers of both the designated and proposed items. All items accepted for substitution shall be subject to all applicable provisions of the Specifications. Should substitution be allowed under the foregoing provisions, and should the item subsequently prove to be defective or otherwise unsatisfactory for the service for which it was intended, the Contractor, shall without cost to the City, and without obligation on the part of the Public Works Director, replace the item with the material originally specified.

FABRICATED MATERIALS AND SHOP DRAWINGS

Fabricated materials and shop drawings shall be handled as set forth in the Special Conditions.

MATERIALS FURNISHED BY THE CITY

MAG Specifications, Section 106.8.

STORAGE AND HANDLING OF MATERIALS

MAG Specifications, Section 106.5 and 106.6, including: Protection of materials and equipment stored on the site shall be the responsibility of the Contractor. The City reserves the right to direct the Contractor to provide proper means of protection for materials if such is deemed advisable by the Public Works Director; however, the exercise of or failure to exercise this right shall not be deemed to relieve the Contractor of his primary responsibility for protecting the material and equipment. The Contractor shall provide suitable warehouses or other adequate means of protection for such if the materials and equipment require storage and protection. The Contractor shall store and care for the materials and equipment in the most suitable manner to protect them from distortion, rain, dust, or other damage. The cost of replacing any material or equipment damaged in storage shall be borne by the Contractor, and the fact that material or equipment has been damaged after partial payment has been made shall not relieve the Contractor of his primary responsibility. No motor shall be left uncovered or unprotected.

REJECTED MATERIALS

MAG Specifications, Section 106.7.

UTILITIES

MAG Specifications, Section 107.11.

DRIVEWAYS AND WALKS

Inconvenience caused by digging across driveways and sidewalks shall be kept to a minimum by restoring the serviceability of the drive or sidewalk as soon as possible. Before blocking driveways, the Contractor shall notify the property owner. The Contractor shall replace or repair any damage done to driveways and walks to not less than the condition existing prior to the Contractor's work. If it is necessary to leave an excavation open across driveways or sidewalks, the Contractor shall provide temporary relief in the form of steel plates over the excavation. Direct access shall be

provided at all times to fire engine houses, fire hydrants, hospitals, police stations, and at all other agencies or services where emergencies may require immediate access to same.

ROADS AND FENCES

Streets and roads subjected to interference by the prosecution of this work shall be kept open and maintained by the Contractor until the work is completed.

TREES AND SHRUBBERY

- A. All trees and shrubbery within the right-of-way or easements shall be protected by the Contractor insofar as practicable.
- B. In the event shrubbery or trees must be trimmed, or removed, the Contractor shall notify the property owner to do so within a reasonable time prior to construction. All shrubbery or trees not removed by the property owner shall be trimmed or removed by the Contractor and hauled from the job at the Contractor's expense.
- C. All trees, shrubs, hedges, brush, etc. designated on the Plans, or by the Public Works Director for removal, shall be completely removed and disposed of as indicated on the Plans or as specified by the Public Works Director.

IRRIGATION DITCHES AND STRUCTURES

The Contractor shall contact the owners of any ditches, irrigation lines, and appurtenances, which interfere with the work and shall make arrangements for dry- up or scheduling of water deliveries. The Contractor shall be liable for any damage due to irrigation facilities damaged by his operations and shall repair such damaged facilities to an "equal or better than" original condition.

SUBMITTALS

Per MAG Specifications, Section 105.2, including:

- A. In ample time for each to serve its proper purpose and function, the Contractor shall submit to the Public Works Director such schedules, reports, drawings, lists, literature samples, instructions, directions, and guarantees as are specified or reasonably required for construction, operation, and maintenance of the facilities to be built and/or furnished under this Contract.
- B. Shop drawings and data shall be submitted to the Public Works Director in such number of copies as will allow him to retain four (4) copies of each submittal. The submittal shall clearly indicate the specific area of the Specifications or Plans for which the submittal is made. The additional copies received by him will be returned to the Contractor's representative at the job site. The Public Works Director's notations of the action, which he has taken, will be noted on one (1) of these returned copies.
- C. The above drawings, lists, prints, samples, and other data shall become a part of the Contract and a copy of the same shall be kept with the job site plans and the fabrications furnished shall be in conformance with the same.

MATERIALS AND EQUIPMENT SCHEDULES

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

QUALITY CONTROL

- A. All material shall be of the specified quality and equal to the approved samples, if samples have been submitted. All work shall be done and completed in a thorough, workmanlike manner, notwithstanding any omission from these Specifications or from the Plans; and it shall be the duty of the Contractor to call the Public Works Director's attention to apparent errors or omissions and request instructions before proceeding with the work. The Public Works Director may, by appropriate instructions, correct errors and supply omissions, which instructions shall be as binding upon the Contractor as though contained in the original Specifications or Plans.
- B. Materials which will require testing and inspection at the place of origin shall not be shipped prior to such testing and inspection.

SAMPLES AND TESTS

Per MAG Specifications, Sections 106.2 and 106.3, including:

- A. At the option of the Public Works Director, the source of supply of each of the materials shall be approved by him before the delivery is started and before such material is used in the work. Representative preliminary samples of the character and quality prescribed shall be submitted by the Contractor or producer of all materials to be used in the work for testing or examination as desired by the Public Works Director.
- B. Sieves used in determining the grading of samples of aggregates, select material, and other graded materials, shall conform to ASTM Designation E 11-81.

LEGAL RELATIONS AND RESPONSIBILITY

LAWS TO BE OBSERVED

MAG Specifications, Section 107.1.

ALIEN LABOR

The Contractor shall comply with the Immigration Reform and Control Act of 1996.

CONTRACTOR IMMIGRATION WARRANTY

The Contractor understands and acknowledges the applicability to it of the Americans with Disabilities Act, the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act of 1989. The following is only applicable to construction contracts: The Contractor must also comply with A.R.S. § 34-301, "Employment of Aliens on Public Works Prohibited", and A.R.S. § 34-302, as amended, "Residence Requirements for Employees".

Under the provisions of A.R.S. § 41-4401, Contractor hereby warrants to the City that the Contractor and each of its subcontractors ("Subcontractors") will comply with, and are contractually obligated to comply with all Federal Immigration laws and regulations that relate to their employees and A.R.S. § 23-214(A) (hereinafter "Contractor Immigration Warranty").

A breach of the Contractor Immigration Warranty shall constitute a material breach of this Contract and shall subject the Contractor to penalties up to and including termination of this Contract at the sole discretion of the City.

The City retains the legal right to inspect the papers of any Contractor or Subcontractors employee who works on this Contract to ensure that the Contractor or Subcontractor is complying with the

Contractor Immigration Warranty. Contractor agrees to assist the City in regard to any such inspections.

The City may, at its sole discretion, conduct random verification of the employment records of the Contractor and any of subcontractors to ensure compliance with Contractor's Immigration Warranty. Contractor agrees to assist the City in regard to any random verification performed.

Neither the Contractor nor any Subcontractor shall be deemed to have materially breached the Contractor Immigration Warranty if the Contractor or Subcontractor establishes that it has complied with employment verification provisions prescribed by Sections 274A and 274B of the Federal Immigration and Nationality Act and the E-Verify requirements prescribed by A.R.S. § 23-214, Subsection A.

The provisions of this Article must be included in any contract the Contractor enters into with any and all of its subcontractors who provide services under this Contract or any subcontract. "Services" are defined as furnishing labor, time or effort in the State of Arizona by a contractor or subcontractor. Services include construction or maintenance of any structure, building or transportation facility or improvement to real property.

COMPLIANCE WITH FEDERAL AND STATE LAWS

The Contractor understands and acknowledges the applicability to it of the Americans with Disabilities Act, the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act of 1989. The following is only applicable to construction contracts: The Contractor must also comply with A.R.S. §34-301, "Employment of Aliens on Public Works Prohibited", and A.R.S. §34-302, as amended, "Residence Requirements for Employees".

Under the provisions of A.R.S. §41-4401, Contractor hereby warrants to the City that the Contractor and each of its subcontractors ("Subcontractors") will comply with, and are contractually obligated to comply with, all Federal Immigration Laws and regulations that relate to their employees and A.R.S. §23-214(A) (hereinafter "Contractor Immigration Warranty").

A breach of the Contractor Immigration Warranty Shall constitute a material breach of this Contract and shall subject the Contractor to penalties up to and including termination of this Contract at the sole discretion of the City.

The City retains the legal right to inspect the papers of any Contractor or Subcontractors employee who works on this Contract to ensure that the Contractor or Subcontractor is complying with the Contractor Immigration Warranty. Contractor agrees to assist the City in regard to any such inspections.

The City may, at its sole discretion, conduct random verification of the employment records of the Contractor and any of the subcontractors to ensure compliance with Contractor Immigration Warranty. Contractor agrees to assist the City in regard to any random verification performed.

Neither the Contractor nor any of the Subcontractors shall be deemed to have materially breached the Contractor Immigration Warranty if the Contractor or Subcontractor establishes that it has complied with the employment verification provisions prescribed by Sections 274A and 274B of the Federal Immigration and Nationality Act and the E-Verify requirements prescribed by A.R.S. §23-214, Subsection A.

The provisions of this Article must be included in any contract the Contractor enters into with any and all of its subcontractors who provide services under this Contract or any subcontract. "Services"

are defined as furnishing labor, time or effort in the State of Arizona by building or transportation facility or improvement to real property.

EMPLOYMENT PROVISIONS

Subject to existing law, and regulations, illegal or undocumented aliens will not be employed by the Contractor for any work or services to be performed pursuant to this contract. The Contractor will ensure that this provision is expressly incorporated into any and all Subcontracts or subordinate agreements issued in support of this contract. Contractor agrees to comply with the provisions of Section 274A(a)(1)(A) and 274A(a)(2) of the Immigration and Nationality Act (8 U.S.C. 1324a(a)(1)(A), 1324a(a)(2)) (the "INA employment provisions"), and any amendments thereto, prohibiting the unlawful employment of illegal or undocumented aliens. Under the terms of this agreement, the contractor shall not knowingly hire or employ for any work performed pursuant to this contract any workers or employees not lawfully authorized to work under the provisions of the Immigration and Nationality Act or any other applicable federal or state laws. Violation of the provisions of this section shall be deemed a material breach of this contract.

INDEPENDENT CONTRACTOR STATUS

It is expressly agreed and understood by and between the parties that the Contractor is being retained by the City as an independent contractor, and as such the Contractor shall not become a City employee, and is not entitled to payment or compensation from the City or to any fringe benefits to which other City employees are entitled. As an independent contractor, the Contractor further acknowledges that he is solely responsible for payment of any and all income taxes, FICA, withholding, unemployment insurance, or other taxes due and owing any governmental entity whatsoever as a result of this Agreement. As an independent contractor, the Contractor further agrees that he will conduct himself in a manner consistent with such status, and that he will neither hold himself out nor claim to be an officer or employee of the City by reason thereof, and that he will not make any claim, demand or application to or for any right or privilege applicable to any officer or employee of the City, including but not limited to workmen's compensation coverage, unemployment insurance benefits, social security coverage, or retirement membership or credit.

NONDISCRIMINATION

The Contractor, with regard to the work performed by it after award and during its performance of this contract, will not discriminate on the grounds of race, color, national origin, religion, sex, disability or familial status in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Contractor will not participate either directly or indirectly in the discrimination prohibited by or pursuant to Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Section 109 of the Housing and Community Development Act of 1974, the Age Discrimination Act of 1975, the Americans with Disabilities Act (Public Law 101-336, 42 U.S.C. 12101-12213) and all applicable federal regulations under the Act, and Arizona Governor Executive Orders 99-4, 2000-4 and 2009-09 as amended.

AMERICANS WITH DISABILITIES ACT

Contractor shall comply with all federal, state and local nondiscrimination statutes in the operation, implementation and delivery of, including state and federal civil rights and disabilities laws. In particular the contractor shall ensure that the City of Prescott's obligations for program, facility and service accessibility in Title II of the Americans with Disabilities Act are complied with in all activities arising under this contract, and shall hold harmless the City for any and all loss, including but not limited to damages, costs or expenses, incurred or arising from any alleged violations of the

Americans with Disabilities Act under the auspices of this contract unless resulting from an intentional or actual negligent act of the City and its employees. Failure to comply with the nondiscrimination or accessibility requirements herein shall be construed as nonperformance and may result in termination of funding, civil action or both.

PERMITS, TAXES AND LICENSES

MAG Specifications, Section 107.2, including: Except as otherwise provided in the Specifications, it is the duty of the Contractor to procure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work. All applicable permits, licenses and taxes are the responsibility of the Contractor.

PATENTED DEVICES, MATERIALS AND PROCESSES

MAG Specifications, Section 107.3.

SURVEY LAND MONUMENTS

Survey land monuments and property marks shall not be moved or otherwise disturbed by the Contractor until an authorized agent of the agency having jurisdiction over the land monuments or property marks setting, has witnessed or otherwise referenced their location, and only then in accordance with the requirements of the agency having jurisdiction. Any monuments displaced by the Contractor shall be replaced at the Contractors expense.

PROTECTION OF PERSON AND PROPERTY

MAG Specifications, Sections 107.5 through 107.10, including:

The Contractor shall confine all aspects of his operations within the construction limits as identified in the project plans. Should the Contractor contemplate the use of any private property adjacent to the project, beyond the project limits, for materials and equipment storage or to perform any work, he shall first obtain the written permission of the property owner. The Contractor shall provide a copy of the owner's permission to enter the property and for what purpose to the Public Works Director prior to entering the property. The Contractor will be fully and solely responsible for any and all adverse impacts and / or damages caused by his operations on private property and the settlement of all claims pertaining thereto. Upon completion of his operations the Contractor shall obtain a signed release from the property owner pertaining to his activities on the owner's property and provide a copy of that document to the Public Works Director. The failure of the Contractor to comply with these provisions will result in the retention of some portion of Contractor funds, payable under the contract, until such claims are resolved.

PROTECTION OF ANTIQUITIES

MAG Specifications, Section 107.4.

PERSONAL LIABILITY OF PUBLIC OFFICIALS

MAG Specifications, Section 107.13.

NON-RESPONSIBILITY OF THE CITY

Indebtedness incurred for any cause in connection with this work must be paid by the Contractor, and the City is hereby relieved at all times from any indebtedness or claim other than payments under terms of the Contract.

NO WAIVER OF LEGAL RIGHTS

MAG Specifications, Section 107.14.

PROPERTY RIGHTS IN MATERIAL

Nothing in the Contract shall be construed as vesting in the Contractor any right of property in materials used after they have been attached or affixed to the work or the soil and accepted. All such materials shall become the property of the City upon being so attached or affixed and accepted.

PAYMENT TO CONTRACTORS

GENERAL

- A. The basis of payment for construction of this project shall be unit prices for all work actually performed in accordance with the Specifications and Scope of work, and shall include all labor and materials incorporated in the completed work.
- B. Upon final inspection and acceptance of the work, the City will pay the Contractor the amount earned under the Contract, as provided herein.

PARTIAL PAYMENT

- A. Once each month, the City Project Inspector and the Contractor's Superintendent shall meet or as necessary to jointly measure all work items under the contract to determine pay quantities for each pay period. Quantities of work items shall be documented on the respective plan sheets and separately in tabular fashion with Station to Station measurements noted to assure there is no duplication of payment for work performed. Measurements will be for work actually completed. No projections for expected completion of work will be allowed.
- B. Contractor shall submit partial payment requests in a format approved by Public Works together with the City of Prescott Pay Request Application and Certification for Payment (form provided by Public Works) or equal, subject to approval by the Public Works Director.
- C. The City will retain ten percent (10%) of the amount of each such estimate to insure full and faithful compliance with the terms of these contract documents. After fifty percent (50%) of the work on this project has been completed, one half (½) of the amount retained shall be paid to the Contractor provided the Contractor is making satisfactory progress on the contract and there is no specific clause or claim requiring a greater amount to be retained. After the contract is fifty percent (50%) completed, only five percent (5%) of the amount of any subsequent progress payments made under the contract shall be retained provided the Contractor is making satisfactory progress on the project, except that if at any time the City determines satisfactory progress is not being made, ten percent (10%) retention shall be reinstated for all progress payments made under the contract subsequent to the determination.
- D. The Contractor shall furnish a detailed breakdown showing unit prices and quantities for use in preparing the monthly estimate. No partial payment will be made until this breakdown is presented by the Contractor and has been reviewed and accepted by the Public Works Director. Green-lined plan sheets shall be submitted with each monthly pay request illustrating the line item quantities constructed for the period. The green-lined plan sheets and pay estimate spreadsheets must reconcile with one another.
- E. No partial payment for job site delivered material will be made.

PAYMENT

For and in consideration of the faithful performance of the work, the City will pay to the Contractor the amount earned less retention as computed from the actual quantities of work performed under the Contract and to make such payment in the manner and at the time(s) specified, as follows:

- A. After final completion under the Contract, the Contractor shall render to the City a final estimate, which shall show the amount of work performed according to the Contract.
- B. Before the final payment will be made, the Contractor shall satisfy the City by affidavit that all bills for labor and materials incorporated in the work have been paid. See CONTRACTOR'S AFFIDAVIT REGARDING SETTLEMENT OF CLAIMS AND CERTIFICATION OF COMPLETION OF WARRANTIES, page 26. Additionally, the Contractor shall furnish lien waivers for all completed labor and materials consumed during the project.
- C. Final payment constituting the entire unpaid balance of the Contract sum (including all retained moneys) shall be paid by the City to the Contractor within sixty (60) days after completion of the work or filing the Notice of Completion of the Contract unless a specific written finding by the City of the reasons justifying the delay in payment is provided to the Contractor, and further provided that all work has been completed, the Contract fully performed, and any final certificate has been issued by the City's architect, if any. Prior to the final payment to the Contractor, the City shall deduct therefrom any and all unpaid privilege, license and other taxes, fees and any and all other unpaid moneys due the City from the Contractor, and shall apply to those moneys to the appropriate account. Contractor shall provide to the City any information necessary to determine the total amount(s) due. The quantities appearing in the Bidding Schedule are approximate only, and are prepared for the comparison of bids. Payment to the Contractor will be made only by actual quantities of work performed and accepted in accordance with the requirements of the Contract. Only the items listed in the Bidding Schedule are pay items. The scheduled quantities of work to be done and materials to be furnished may each be increased, decreased or omitted.
- D. **Final project As-built plans shall verify line item quantities constructed for the project by individual plan sheet.** Contractor shall submit final payment request in a format approved by Public Works together with the City of Prescott Pay Request Application and Certification for Payment (form provided by Public Works).

PAYMENT OF ITEMS IN PROPOSAL

- A. Only those items listed in the Proposal under Bidding Schedule are pay items.
- B. Compensation for all work necessary for the completion of the project or improvement shall be included by the bidder in the price bid for the items shown in the Proposal.

CHANGES IN THE WORK

- A. The City, without invalidating the Contract, may order extra work, make changes by altering, or delete any portion of the work as specified herein, or as deemed necessary or desirable by the Public Works Director. All such work shall be executed under the conditions of the original Contract except that any claim for extension of time and additional cost caused thereby shall be adjusted at the time of ordering such change or extra work.
- B. Extra work shall be that work not indicated or detailed on the Plans and not specified. Such work shall be governed by all applicable provisions on the Contract Document.
- C. In giving instructions, the Public Works Director shall have authority to make minor changes in the work, not involving extra cost, and not inconsistent with the purposes of the work, but

otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the Public Works Director, and no claim for an addition to the total amount of the Contract shall be valid unless so ordered. It is mutually understood that it is inherent in the nature of municipal construction that some changes in the Plans and Specifications may be necessary during the course of construction to adjust them to field conditions, and that it is of the essence of the Contract to recognize a normal and expected margin of change. The Public Works Director shall have the right to make such changes, from time to time, in the Plans, in the character of the work, and in the termination of the completion of the work in the most satisfactory manner without invalidating the Contract.

- D. Any change ordered by the Public Works Director which involves installation of work essential to complete the Contract, but for which no basis of payment is provided for herein, said payment therefore shall be subject to agreement prior to said work being performed.
- E. The prices agreed upon and any agreed upon adjustment in Contract time shall be incorporated in the written order issued by the Public Works Director, which shall be written so as to indicate acceptance on the part of the Contractor as evidenced by his signature. In the event prices cannot be agreed upon, the City reserves the right to terminate the Contract as it applies to the items in questions and make such arrangements as it may deem necessary to complete the work, or it may direct the Contractor to proceed with the items in question to be reimbursed pursuant to the unit prices in the Contractor's bid or on a force account basis as provided hereinafter, at the City's option.

FORCE ACCOUNT

The compensation for force account work performed by the Contractor shall be approved by the Public Works Director in the following manner:

- A. **LABOR:** The Contractor shall provide monthly certified payroll reports for all labor and for foremen in direct charge of the specific operations. The Contractor will be compensated as follows:
 - 1. The actual cost of wages paid by him but at rates not to exceed those for comparable labor currently employed on the project as determined by Public Works Director.
 - 2. The actual cost of social security taxes and unemployment compensation insurance. There will be no payment for Fringe Benefits unless mandated by Federal Law on Federally funded projects.
 - 3. An amount equal to fifteen percent (15%) of the actual cost of wages and other costs listed above to cover the Contractor's profit and overhead.
 - 4. In case work is performed by a subcontractor, the said fifteen percent (15%) will be added only once to the actual cost of the work, however, the Contractor may add five percent (5%) to the Subcontractor's price to cover his own overhead and supervision.
- B. **TOOLS AND EQUIPMENT:** For any special or heavy equipment, the use of which has been authorized by the Public Works Director, except for small tools and manual equipment, the Contractor shall be reimbursed his actual cost of rental, not to exceed the latest Schedule of Equipment Rental Rates published by the Arizona Department of Transportation. In the event that any of the equipment to be used is not shown in said schedule, the rental rate for such equipment shall be as agreed upon in writing before the work is started. No percentage shall be added to equipment rental rates. In the event said special or heavy equipment is owned by the Contractor, he shall be compensated only for the actual hours said equipment is required for the

work under Force Account on the job site, at a rate not to exceed the latest ADOT. Schedule of Equipment Rental Rates.

- C. **MATERIALS:** For all materials accepted by the Public Works Director and used in the work the Contractor shall be paid the actual cost of such material, including transportation charges, to which cost shall be added a sum equal to fifteen percent (15%) thereof.
- D. **SUPERVISION OVERHEAD AND HOME OFFICE OVERHEAD:** No allowance shall be made for general superintendence. The cost of supervision and all overhead is presumed to be included in the fifteen percent (15%) added in accordance with the above.
- E. **RECORDS:** The Contractor's representative and the Public Works Director shall compare the records of the work performed as ordered on a force account basis at the end of each day on which such work is performed. Copies of these records shall be made on suitable forms provide for this purpose and signed by both the Public Works Director and the Contractor's representative. All claims for work done on a force account basis shall be certified and submitted to the Public Works Director by the Contractor, and such statements shall be filed with the Public Works Director not later than the fifth (5th) day of the month following that in which the work was actually performed.
- F. **BONDS AND INSURANCE:** The Contractor shall be paid the actual cost for additional bonding and insurance pertaining to Force Account work when the Contractor can provide evidence of additional payment for premiums on required payment and performance bonds. No duplication of payment for Contractors costs associated with labor costs above will be allowed.
- G. The Public Works Director authorized representative is in charge of Force Account Work and has the authority to direct which labor and equipment will be used, to suspend operations, and to refuse to pay for any labor or equipment, which he feels is not doing productive work.

EXTRA WORK

New or additional work will be classed as extra work when determined by the Public Works Director that such work is not covered by the Contract.

CONTRACT AMENDMENT

The value of such work or change shall be determined and paid for with a Contract Amendment in one of the following ways according to the Contract Amendment Procedure set down by the Public Works Department, City of Prescott, and at the option of the City:

- A. As may be mutually agreed upon by the City and the Contractor.
- B. By unit prices in accordance with the Contractor's bid.
- C. By lump sum based upon the Contractor's estimate and the Public Works Director's review and acceptance of the estimate.
- D. By Force Account in accordance with the requirements of that section.
- E. The Contractor shall do such extra work and furnish material and equipment therefore upon receipt of an accepted Contract Amendment or other written order of the Public Works Director. In no case shall work be undertaken without written notice from the Public Works Director to proceed with the work. In absence of such Contract Amendment or other written order of the Public Works Director, the Contractor shall not be entitled to payment for any extra work. All contract amendments must be approved by the Public Works Director. Contract Amendments over \$10,000.00 must be approved by City Council.

- F. In the event that the Contractor and the City cannot agree on the compensation to be paid to the Contractor prior to the issuance of a Contract Amendment, then and in that event the City has the option of terminating the Contract with the Contractor or directing the Contractor to proceed and to receive compensation pursuant to the Force Account provisions herein. In the event that this Contract is terminated by the City pursuant to this subsection, the Contractor shall only be paid for those services performed to date of the City's Notice of Termination, said payment to be based upon the unit prices as set forth in the Contractor's bid. In no event shall the Contractor be entitled to additional compensation for lost profits, mobilization or de-mobilization costs, loss of anticipated profits, extended overhead, unabsorbed home office overhead, or any other payments other than for work actually performed as based upon unit prices. In the event that there are no unit prices pertaining to work in question, then and in that event the Contractor's compensation for early termination pursuant to this subsection shall be based upon Force Account as here-in-before described.
- G. It is expressly agreed that in the event of a Contract Amendment, any compensation due the Contractor shall be set forth in the Contract Amendment, and shall be considered full and complete payment (if any) for any and all work related costs, including but not limited to labor, materials, equipment, supervision, field office overhead, extended home office overhead, unabsorbed home office overhead, taxes, bonds, insurance and profits. Additionally, the Contractor shall not be entitled to any additional compensation based upon a Contract Amendment (or the accumulation of contract amendments) unless specifically set forth in that Contract Amendment.
- H. In the event that the contractor submits a proposed Contract Amendment, the Public Works Director shall have ten (10) days after receipt of the Contractor's written proposed Contract Amendment to either accept or agree to the Contract Amendment under the above provisions or deny such proposed Contract Amendment. If necessary to assess the proper purpose and function of a Contractor's proposed Contract Amendment, because of the proposed Contract Amendment's complexity or scope, the Public Works Director may either accept and agree to the Contract Amendment or deny such proposed Contract Amendment under the above provisions beyond such ten (10) day period and for an additional reasonable period commensurate with the nature of the proposed Contract Amendment. The failure of any party to take any action within the time periods or in the manner specified in the subparagraph shall be deemed a waiver of that party's right to recover for such delay in acting.

CLAIMS FOR EXTRA WORK

If the Contractor claims that any instructions involve extra cost under this Contract, he shall give the Public Works Director written notice thereof within forty-eight (48) hours after the receipt of such instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property, and the procedure shall then be as provided for under CHANGES IN THE WORK. No such claim shall be valid unless so made.

PARTIAL ACCEPTANCE OF WORK

- A. After completion of certain units of work under this Contract, including all testing and other preparation necessary for operation of the unit by the City as herein specified, but prior to final project completion, provisions may be made for partial acceptance in writing by the City for these certain units only. The units to be included for partial acceptance prior to final project completion will be noted at the time of the pre-construction conference in accordance with Contractor's schedule, or by written notice to the Contractor at the earliest possible time.

- B. The guarantee period for these units shall commence with the date of final acceptance of the entire project by the City. Full payment for these units will not be made until final acceptance of the total work is made.
- C. Acceptance of any portion of the project prior to acceptance of the whole shall not be construed as absolving the Contractor of responsibility for any item of construction or incidental work included in the original Contract.

NOTIFICATION OF CHANGED CONDITIONS, FORMAL PROTEST AND DISPUTE RESOLUTION

MAG 110 as modified herein:

110.2.2(A) and 110.3.2, add the following: “In providing the information required by this section, the Contractor shall provide specific factual detail as to each item and show the methods of calculating each item.”

110.3.1 shall be amended as follows:

Level I shall mean the Public Works Project Manager as appointed by the Public Works Director

Level II shall mean the Public Works Division Manager as appointed by the Public Works Director

Level III shall mean the Public Works Director

In the event of litigation, the parties hereby agree to submit to a trial before the Court. The Contractor further agrees that this provision shall be contained in all subcontracts related to the project, which is the subject of this Agreement.

The parties hereto expressly covenant and agree that in the event of litigation arising from this Agreement, neither party shall be entitled to an award of attorney fees, either pursuant to the Contract, pursuant to A.R.S. § 12-341.01 (A) and (B), or pursuant to any other state or federal statute. The Contractor further agrees that this provision shall be contained in all subcontracts related to the project that is the subject of this Agreement.

110.4 The last sentence of the first paragraph shall read: “The arbitration of claims shall be conducted either in Prescott or Phoenix, Arizona as agreed to by the parties, or if the parties cannot agree, to be determined by the arbitrator, taking into consideration the convenience and costs to the parties and their witnesses.”

Delete the last two sentences of the section and replace with: “The decision or award of the arbitrator shall be nonbinding.”

Any resolution of a dispute in accordance with the applicable sections of MAG110 and this Contract which causes the Contract amount to be exceeded by \$10,000.00 or more shall not be final until approved by the City Council.

PUBLICITY RELEASES

The Contractor and their subcontractors and their suppliers, if any, shall not reveal to others through literature, brochures, or other types of publicity releases any information regarding the work or the Contractors activities or participation on the project without prior written approval from the City of Prescott Public Works Director. Any and all jobsite photographs taken by the Contractor, subcontractor or others must be processed in duplicate form with copies provided to the Public Works Director. No project photographs shall be released to others without prior written approval of the Public Works Director.

SCOPE OF WORK

INTENT OF PLANS AND SPECIFICATIONS

- A. The intent of the Specifications and Scope of Work is to prescribe a complete work for the CITY OF PRESCOTT: Storage Tank Maintenance Program- Phase I South Tank Rehabilitation Project which the Contractor shall perform in a manner acceptable to the City Public Works Director and in full compliance with the terms of the Contract.
- B. Unless otherwise specified in the Special Conditions, the Contractor shall furnish all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and incidentals, including, but not limited to, dust and traffic control measures, and to perform all work involved in executing the contract in a satisfactory and workmanlike manner within the specified time.

PROJECT DESCRIPTION AND LOCATION

This project generally consists of the interior cleaning, crack repairs, joint repairs, concrete repairs, and interior coating of the South Tank located south of S. Washington Avenue.

TIME OF COMPLETION

- A. The Contractor shall commence the work under this contract on or before the tenth (10th) calendar day after receiving written Notice to Proceed from the Owner. The Contractor shall fully complete all work under this contract within sixty (60) calendar days beginning with the calendar day of receipt of the Notice to Proceed. The Contractor shall at all times during the continuance of the Contract prosecute the work with such work force and equipment as is sufficient to complete the project within the time specified.
- B. Project Milestones are estimated to be as follows:

Award of Contract	March 15, 2016
Pre-Construction Meeting	Week of April 3, 2016
Notice to Proceed	April 18, 2016
Expected Completion Date	June 17, 2016

All milestones are “earliest” dates for planning purposes only, and shall not represent any contractual commitment whatsoever on the part of the City.

TECHNICAL SPECIFICATIONS

**CITY OF PRESCOTT SUPPLEMENT TO THE MARICOPA ASSOCIATION OF GOVERNMENTS
UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS**

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TECHNICAL SPECIFICATIONS

ADD the following Sections:

100.1 SCOPE OF WORK

A. Intent of Plans And Specifications:

1. The intent of the Specifications and Scope of Work is to prescribe a complete work for the Project which the Contractor shall perform in a manner acceptable to the City of Prescott and in full compliance with the terms of the Contract.
2. Unless otherwise specified in the Special Conditions, the Contractor shall furnish all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and incidentals, including, but not limited to, dust and traffic control measures, and to perform all work involved in executing the contract in a satisfactory and workmanlike manner within the specified time.
3. The Engineer shall be that person or his designees employed by or contracted by the City Of Prescott responsible for all aspects of the project and with the authority to make revisions to and approve changes to the plans or specifications.

B. Project Description and Location:

1. The Project description and location are as noted in the contract documents and plans.

C. Time of Completion:

1. The Contractor shall commence the work under this contract on or before the tenth (10th) calendar day after receiving written Notice to Proceed from the Owner. The Contractor shall fully complete all work within the calendar days allowed for in the contract, in accordance with the date set forth in the Notice to Proceed. The Contractor shall at all times during the continuance of the Contract prosecute the work with such work force and equipment as is sufficient to complete the project within the time specified.

100.2 STANDARD SPECIFICATIONS & DRAWINGS

- A. Standard details and specifications for this project shall be the Maricopa Association of Governments Standard Specifications and Details (MAG Standards), latest revision, and the City of Prescott Supplement to the Maricopa Association of Governments Uniform Standard Specifications for Public Works, latest revisions, in conjunction with the City of Prescott Standard Details, latest revisions, except as modified in the plans.
- B. Other standard specifications and details will be incorporated within the plans, project documents and technical specifications by reference, as necessary. These may include references to Maricopa Association of Governments Uniform Standard Details for Public Works Construction (MAG Standard Details, Arizona Department of Transportation Standard Specifications and Standard Drawings for Road and Bridge Construction (ADOT Specifications or ADOT Standard Details), and others.

100.3 GENERAL NOTES

- A. All construction shall conform to the Maricopa Association of Governments Standard Specifications and Details (MAG Standards), latest revisions, and City of Prescott Supplement to MAG Specifications (COP Specifications) and City of Prescott (COP) Standard Details, latest revisions, unless specifically modified on the plans.
- B. It shall be the Contractor's responsibility to obtain copies of MAG, and COP Standards and

Specifications as well as all other standards and specifications necessary to completely and accurately interpret the plans.

- C. All plans signed by the Public Works Director are null and void one year from date of signature if construction has not started.
- D. All quantities shown on plans are not verified by the Engineer. The Contractor shall verify all quantities shown and make his bid based upon those verifications. If any discrepancy in quantities is found, Contractor shall notify the Engineer of such no later than 24 hours prior to bid opening.
- E. A City of Prescott Public Works Department permit will be required for all off-site construction and construction within the public right of way.
- F. It is the sole responsibility of the Contractor to obtain, at his own expense, such permits as are required from the appropriate agencies.
- G. The Public Works Department shall be notified a minimum of 24 hours prior to beginning any construction in the public right of way at (928) 777-1640.
- H. Inspection is to be done by the City of Prescott Public Works Department.
- I. Any work performed without the knowledge of the City of Prescott inspector or his representative is subject to removal and replacement of same, to be done at the Contractor's expense.
- J. All work and materials, which do not conform to the specifications, are subject to removal and replacement at the Contractor's expense.
- K. Approval of a portion of the work in progress does not guarantee its final acceptance. Testing and evaluation may continue until the written final acceptance of a complete and workable unit.
- L. The City of Prescott may suspend the work by written notice when, in its judgment, progress is unsatisfactory, work being done is unauthorized or defective, weather conditions are unsuitable, or there is a danger to the public health and safety.
- M. The Contractor shall provide sufficient men and equipment on the job at all times during construction to comply with specifications and to complete work.
- N. Contractor shall be responsible for construction surveying and layout.
- O. The Contractor shall notify "Blue Stake" at 811 or 1-800-782-5348 at least 48 hours prior to construction.
- P. It is the Contractor's responsibility to locate all underground pipelines, telephone and electric conduits and structures in advance of any construction and will observe all possible precautions to avoid any damage to such. The Engineer and/or City will not guarantee any locations as shown on these plans, or those omitted from it.
- Q. The Contractor is to uncover all existing lines being tied into and verify grades, pipe material, and pipe diameter before material submittals and planned construction activities.
- R. Arizona Department of Environmental Quality Requirements shall be complied with.
- S. All water lines shall be provided with 14 AWG HS-CCS wire. Trace wire shall be subject to traceability test.
- T. Water/sewer separation shall be pursuant to AAC R-18-5-502C and COP specifications.
- U. Water mains shall be subject to a pressure and leakage test in accordance with AWWA C-600 Standard.
- V. Water mains shall be disinfected in accordance with ADEQ Engineering Bulletin No. 8 "Disinfection of Water Systems".
- W. Operation of valves to be done by City personnel only.
- X. All pipeline materials shall be installed per manufacturer's requirements unless superseded by COP specifications.

- Y. All materials for water line construction shall meet AAC R-18-4-119.
- Z. Arizona Department of Environmental Quality requirements will apply when more stringent than MAG Standard Specifications; more specifically where they pertain to maximum allowable sewer line/pressure sewer line exfiltration-infiltration rates.
- AA. Sewer line low-pressure air tests shall be done on 100% of all lines.
- BB. Sewer manholes exfiltration tests shall be done on 100% of all manholes. Vacuum testing in accordance with City of Prescott Standards may be used in lieu of exfiltration test.
- CC. Sewer line deflection tests shall be done on 100% of all pipes.
- DD. Prior to project acceptance, the Contractor shall be responsible for providing the City of Prescott with video (DVD) of the entire sewer main installed including service laterals. The video will be previewed and deemed acceptable by the City prior to project release.
- EE. Acceptance of the completed water/sewer system will not be given until 3 ml photo Mylar or Xerox graphic "as-built" reproducible plans and all required digital files have been submitted by a Registered Professional Engineer and approved by the Engineer.
- FF. Contractor shall warrant all work for a minimum of two years after formal acceptance of the work.

101.1 DEFINITIONS AND TERMS

REPLACE the definition of Engineer with the following:

The Engineer shall be that person or his designees, subordinate to the Public Works Director, employed by or contracted by the City Of Prescott responsible for all aspects of the project and with the authority to make revisions to and approve changes to the plans or specifications.

104.1.4 CLEANUP AND DUST CONTROL

ADD the following:

- A. The work under this item shall consist of applying water required for dust control per MAG Specifications and as modified herein.
- B. If in the opinion of the Engineer the Contractor fails to keep dust for his operation under control, the Engineer may order by written order suspension of operations until the situation is remedied. No time extension or additional costs will be allowed for this suspension.
- C. All contractors requesting construction water from the City must submit a Construction Water Meter Application to the Public Works Department. A \$1,000 deposit will be required for hydrant meters. If construction water use occurs during the months of May through September the Contractor shall also include a dust abatement program. Potable water may not be allowed for dust abatement during these months. Potable water can be used to process embankment fill and base materials year round. However, contractors are encouraged to use treated effluent for construction activities. The City of Prescott has two outlets for effluent, the Sundog Wastewater Treatment Plant and the Airport Wastewater Treatment Plant. The City will provide metered standpipes for effluent at both plants. The Contractor will be required to estimate daily and total potable/effluent water usage for the project as identified on the Construction Water Meter application. The Contractor will be responsible for all costs associated with obtaining and delivering construction water.

Measurement and Payment:

No separate measurement or payment shall be made for dust control. This work shall be considered incidental and included in the unit price bid for construction of the appropriate contract pay items.

104.1.5 Final Cleaning Up:

ADD the following:

Upon completion of construction and before Final Acceptance can be made by the Engineer, the Contractor shall clean up each individual construction area to the satisfaction of the Engineer. Small trees, weeds, and brush, which were removed as part of construction work, shall be removed from the project site and properly disposed of. All debris, broken pipe, concrete and other construction debris shall be removed from the project site and properly disposed.

Mailboxes and traffic signs removed during construction shall be reinstalled in "like kind" and shall be considered incidental to the unit prices for utility work included in the bidding schedule.

105.6 COOPERATION WITH UTILITIES

ADD the following:

A. Location of Underground Utilities

1. Contractor shall contact Blue Stake within the time frame specified under Blue Stake law and request field location of underground utilities. At the time these locations have been marked and prior to the commencement of excavation within the affected area, the Contractor shall at his expense manually determine the exact location of all buried facilities.
2. Contractor shall notify all affected utilities prior to the start of construction and shall ascertain the location of the various underground utilities either shown on the plans and/or as may be brought to his attention.
3. Contractor shall perform all operations in accordance with Arizona Blue Stake law.
4. Utility locations shown on the plans are approximate and based on drawings furnished by the respective utility. It shall be the Contractor's responsibility to protect all existing utilities. Should a utility conflict occur, the Contractor shall cooperate with the said utility to resolve the conflict. No claim for extra costs shall be made against the Owner for delays due to any utility conflict.
5. If performance of the Contractor's work is delayed because the utility owners fail to relocate or adjust their facilities in a timely manner, the Contractor may file for an extension of time. To receive consideration, this request shall contain specific information as to the nature of the delay and the actual loss of time involved.
6. Contractor shall assume full responsibility for damage to all marked utilities due to his operations and shall repair the damaged utilities in accordance with regulatory authority requirements at his own expense.

Measurement and Payment:

No separate measurement and payment shall be made for Location of Underground Utilities. This work shall be considered incidental and included in the unit price bid for construction or installation of the appropriate contract pay items.

105.8 CONSTRUCTION STAKING

Replace Section 105.8 in its entirety with the following:

- A. Construction staking shall be the responsibility of the CONTRACTOR. The control for the project is provided in the CONTRACT DOCUMENTS. The CONTRACTOR shall be held responsible for preservation of control monumentation. If any of the control monumentation have been carelessly or willfully destroyed or disturbed by the CONTRACTOR, the cost of replacing them will be charged against him and will be deducted from the payment of work.

- B. The CONTRACTOR shall not retain the ENGINEER of Record for construction staking due to conflict of interest.
- C. Staking shall be performed and certified by a Registered Land Surveyor in good standing with the Arizona State Board of Technical Registration.
- D. Field notes and record drawings shall be provided to the ENGINEER.
- E. The staking shall be performed in such a manner and frequency that the CONTRACTOR is able to construct the project in accordance with the plans and specifications. At a minimum, staking shall include
 - 1. Slope or limit stakes (TCE).
 - 2. Alignment of Pipeline.
 - 3. Valves, bends, blow offs, air release valves, tracer wire stations, water meters and hydrant locations.
 - 4. Horizontal and vertical bend locations.
 - 5. Tank and appurtenances.
 - 6. Electrical, instrumentation and control facilities, including, but not limited to, antennae pole.
 - 7. Site improvements including, but not limited to, retaining walls, curbs, fencing, drainage, chain link fence enclosures, protection posts, gates, etc. The original grade of all retaining walls shall be surveyed and established prior to beginning any earthwork.
 - 8. Cross-sections will be required, at no additional expense to the City, should quantity disputes arise pertaining to the following: Earthwork, Sub-grade, ABC or Asphaltic Concrete.
 - 9. Curb stakes at all PC's, PT's, Vertical PI's (grade breaks), Transitions to and from Super Elevated sections and at 50 foot intervals.
 - 10. Blue top of Sub-grade and ABC at intervals specified for curb. Quarter crown blue tops shall be required when the typical section is four lanes or more without median curb.
 - 11. Other staking as needed to complete the work in conformance with the plans and specifications.
- F. The ENGINEER and the CONTRACTOR's Superintendent shall meet monthly or as necessary to jointly measure all work items under the contract to determine pay quantities for each pay period. Quantities of work items shall be documented on the respective plan sheets and separately in tabular fashion with Station to Station measurements noted to assure there is no duplication of payment for work performed. Measurements will be for work actually completed. No projections for expected completion of work will be allowed.
- G. All survey data will be international feet for horizontal and vertical, NAVD 88 for vertical and City of Prescott coordinates. Please refer to the City of Prescott Survey Datum Requirements below.

City of Prescott Survey Datum Requirements

Coordinate Units:	International Feet
Distance Units:	International Feet
Height Units:	International Feet
Vertical Datum:	NAVD 88

State Plane

Coordinate System: US State Plane 1983
Datum: (WGS 84)
Zone: Arizona Central 0202
Geoid Model: Geoid99 (Conus)

City of Prescott - Conversion from State Plane

Northing: (State Plane x 1.000329975) - 701,456.0090
Easting: (State Plane x 1.000329975) + 69,457.2499

State Plane - Conversion from City of Prescott

Northing: (City of Prescott + 701,456.0090) x 0.999670134
Easting: (City of Prescott - 69,457.2499) x 0.999670134

Measurement And Payment

The quantity of "Construction Staking" measured for payment shall be the lump sum bid by the CONTRACTOR. The contract unit price per lump sum paid for "Construction Staking" shall be full compensation for all labor, materials, and equipment to perform the construction staking as described in this section.

Pay Item: 105.8 Construction Staking

ADD the following Section:

105.16 AS-BUILT PREPARATION AND COORDINATION

- A. As-built data and preparation will be performed by the ENGINEER. The CONTRACTOR shall notify the ENGINEER as required in this Section, provide access to the work, and cooperate with the ENGINEER to accurately depict the as-built conditions. During the construction phase and prior to any backfilling or covering, the ENGINEER will survey the work for the purpose of as-built preparation. Surveying shall be performed and certified by a Registered Land Surveyor in good standing with the Arizona State Board of Technical Registration. The ENGINEER shall supply all horizontal and vertical as-built data in ASCII format, including a northing, easting, elevation and description of all work completed under this contract. The CONTRACTOR shall aid the ENGINEER in determining and providing this information. As-built data shall include, but not be limited to all items noted below.
 - 1. Roadway
 - a) Horizontal centerline alignment(s) including all PC's, PT's, and PI's.
 - b) Cross sections at 50-foot intervals consisting of back of sidewalk, front of sidewalk, top back of curb, flow line, front face of gutter (edge of pavement).
 - c) Valley gutters including flow lines, spandrels, approaches, ADA ramps, installed or relocated signs, traffic signals, and street lights.
 - 2. Storm System
 - a) All drainage structures including manholes, catch basins, junction structures, scuppers, and inlet/outlet structures. Rim and invert elevations shall be included for all structures.

Headwall data shall include top of wall/wingwall, footing elevations, inverts, and apron boundaries weather concrete or rip-rap.

- b) Drainage ditches, swales, and channels; the flow line and sufficient cross sections (minimum of 50-foot intervals) including grade changes, shall be provided to prove conformance to the plans.

3. Water System (Potable and Re-Use)

- a) The alignment of the water main(s) including all horizontal and vertical curves. If the water main continues in a straight horizontal **and** vertical alignment for more than 100 feet, the water main will be surveyed every 100 feet. Sufficient survey shots shall be taken on horizontal and vertical curves to establish an accurate alignment.
- b) All fittings and appurtenances shall be surveyed, including but not limited to the following: valves, bends, tees, reducers blow offs, air release valves, tracer wire stations, water meters, and hydrant locations.
 - i) Valves shall be shot on the nut and center of the cover. If extensions are used, the length of the extension shall be noted.
 - ii) All fittings shall be shot at the middle of the fitting.
 - iii) Air release valves shall be shot at the main connection, the air release box, and any major alignment changes between the two.
- c) All mainline water and sewer crossings shall be surveyed for specific elevation separations and be entered on the as-builts.

4. Sewer System (Gravity and Force Mains)

- a) The alignment of the main(s) including all horizontal and vertical curves. If the sewer main continues in a straight horizontal **and** vertical alignment for more than 100 feet, the sewer main shall be surveyed every 100 feet. Sufficient survey shots shall be taken on horizontal and vertical curves to establish an accurate alignment.
- b) All manholes, cleanouts, backwater valves, lift stations, and force main valves shall be shot. Structures shall have rim and invert elevations included.
- c) All valves at lift stations and line or isolation valves on force mains shall be shot on the nut and the center of the cover or vault lid.

5. Water tank and appurtenances

- a) Required information for water tanks include, but are not limited to finished floor elevation, footing elevations, inlet, outlet, drain, and overflow locations.
- b) Site piping and appurtenances shall follow the requirements of 105.16.A.3.

6. Electrical, instrumentation, and control facilities, including, but not limited to, antennae pole.

- a) All exterior poles, antennae, transformers, junction boxes, and pull boxes.

- b) All exterior power, communication, fiber optic, cable lines, including all conduit and duct banks.
7. Site improvements
- a) Shall include, but not limited to, retaining walls including footing elevations, curbs, fencing, drainage, chain link fence enclosures, protection posts, gates, finished ground topography, etc.
- B. Prior to backfilling or covering any work, the CONTRACTOR shall notify the ENGINEER 48-hours in advance in writing for the item of work. The minimum 48-hours notice time shall not include weekends or holidays. The notification shall be via e-mail to both the CITY and ENGINEER.
- C. The CONTRACTOR must provide access for the ENGINEER to verify all as-built information prior to backfilling or covering. The CONTRACTOR shall not backfill or cover an item of work until verification has been completed by the ENGINEER. If an item of work is determined by the ENGINEER to be backfilled or covered prior to being recorded by the ENGINEER, the CONTRACTOR at the direction of the ENGINEER shall uncover the item of work at no additional cost to the OWNER.
- D. The CONTRACTOR shall maintain a redlined copy of the project plans including changes made in construction of the project. The redline copy shall be updated on a weekly basis in preparation for the weekly as-built field meeting. The CONTRACTOR shall provide the ENGINEER with a copy of the redline plans upon completion of the project.
- E. Weekly field meetings with the CONTRACTOR, ENGINEER and CITY shall occur to review As-Built information for conformance with the specifications. The CONTRACTOR shall provide the ENGINEER with a schedule of work items to be constructed in the upcoming 30 day period, including approximate dates of installation prior to backfilling or covering. The CONTRACTOR field redlines will be reviewed for notation of changes in the work. Missing, erroneous or deficient data must be corrected by the CONTRACTOR at no additional cost to the OWNER.

Measurement and Payment:

No separate measurement and payment shall be made for As-Built Preparation and Coordination. This work shall be considered incidental and included in the unit price bid for construction or installation of the appropriate contract pay items.

106 CONTROL OF MATERIALS

ADD the following:

Contractor shall submit in writing all materials to be used in the project in accordance with MAG Specification Section 105.2.

106.2 SAMPLES AND TESTS OF MATERIALS

ADD the following:

- A. Quality control measures sufficient to produce materials and workmanship of acceptable quality are the responsibility of Contractor. Upon request Contractor shall provide factory certificates of compliance or analysis or both to the Engineer. The Contractor shall provide full-time asphaltic concrete laydown compaction testing and adequate plant control for each paving day. The Contractor shall provide an independent geotechnical firm to perform all soils and concrete testing, as required, per these specifications.

- B. The weekly reports shall state the type of work performed during the report period and other process control measures taken to assure quality. Type of work must be identified by activity, location, station, and offset, purpose of test, and any other relevant information that the Engineer needs to identify or replicate the quality control testing. Results of all tests, corrective actions, re-tests, and control charts shall be attached to the weekly reports. Although hand written documentation can be included, the quality control report narrative and test results must be typed to insure that clear reproductions of the documents can be made. The report period shall end at midnight each Friday and the report shall be submitted to the Engineer no later than 5:00 pm of the following Wednesday. Payment in the amount of \$500.00 per report will be withheld for each individual report that is not delivered to the Engineer by the time and day specified above. Only one half of the withheld payments will be returned on the next regular project progress payment when the delinquent reports have been turned in and all of the above requirements have been met. Any report turned in more than 10 business days beyond the Wednesday due date will not be eligible for withheld payments to be returned.

Minimum Quality Control Sampling Guidelines (may not include all required testing)

MATERIAL TYPE	REQUIRED TEST	SAMPLING POINT	SAMPLING FREQUENCY	REQUIRED RESULT
Embankment	Proctor Optimum Moisture	In-Place	One per Soil Type	
	Compaction	In-Place	One per 500 LF of 8" lift	95% per ASTM D-698
Sub-grade	Proctor Optimum Moisture	In-Place	One per Soil Type	
	Compaction		One per 500 LF	95% per ASTM D-698
Agg. Base	Proctor Optimum Moisture	Crusher belt or Stockpile	At start of production, then as mtl. Changes	
	Compaction	In-Place	One per 500 LF of 6" lift	98% Per ASTM D-698
	Abrasion	Source	One per source	
	Plasticity Index		One per shift	Max. 6 per AASHTO T89 & T90
	Gradation		One per shift	

	Crushed Faces		One per shift	
Asphalt Concrete PG 64-22				
	Bit. Content	Mtl.	Two per day (3/day on 1st day)	
	Marshalls		Two per day	
	Rice		One per day	
MATERIAL TYPE	REQUIRED TEST	SAMPLING POINT	SAMPLING FREQUENCY	REQUIRED RESULT
	Voids, VMA		One per day	
Min. Agg.	Compaction			95%
	Core		One per 1,000 SY	within 24 hours
	Gradation		One per 1,200 tons	
	Crushed Faces		One per day	
	Sand Equivalent		One per day	45 or greater
	Abrasion		One	
Asphalt Rubber Concrete				
Open Graded Asphalt Rubber Concrete				
Asphalt Concrete		Stock pile		
Friction Course Asphalt Rubber	Gradation		One per day	
	Sand Equivalent		One per day	
	Crushed Faces		One per day	
	Flakiness Index		One per day	

Portland Cement				
Concrete	Air		each sample	5% +/- 1%
	Slump		each sample	max. 3.5"
	Compression		4 per 50 CY per	1 @ 7 day
			Section 725.8.2	1 @ 28 day
				2 @ 56 day if failure

ADD the following Section:

106.9 QUALITY ACCEPTANCE TESTING

- A. The Engineer may provide quality acceptance sampling and testing. The number of tests and location of each shall be determined by the Engineer. The expense of the initial sampling and testing shall be paid for by the City. Additional sampling and testing required due to failure of the initial test(s) shall be accomplished as provided by the City and these additional expenses shall be deducted from moneys due Contractor.
- B. Contractor and the Engineer’s representative shall coordinate on a daily basis the following day’s work schedule and any testing that may be necessary. The Engineer’ quality acceptance testing will generally consist of (1) daily sampling and testing for asphalt extraction/gradation and Marshall density for each paving day; and (2) asphaltic concrete core drilling after placement to verify thickness and density. A minimum of one core per each 1,000 square yards of paving shall be randomly sampled by the Contractor’s quality control lab after marking by the City inspector.
- C. Construction quality acceptance testing performed by the City of Prescott does not relieve the Contractor or the manufacturer of materials produced for the Contractor, of the obligation to perform and document quality control testing of materials and workmanship.

Measurement and Payment:

No separate payment shall be made for Contractor Quality Control. This work shall be considered incidental and included in the unit price bid for construction or installation of the appropriate contract pay items. An independent geotechnical firm shall perform all quality control testing. The Contractor shall furnish copies of all test results to the City on a weekly basis.

No separate payment shall be made for Quality Acceptance Testing or any related work performed by Contractor.

107.6 PUBLIC CONVENIENCE AND SAFETY

ADD the following:

- A. Maintenance of Traffic
 - 1. Contractor shall at all times conduct his/her work as to ensure the least possible obstruction to traffic.
 - 2. Unless otherwise provided, the road, while being improved shall be kept open to all traffic by Contractor. When so requested by Contractor and approved by the Engineer, Contractor may by-pass traffic over an approved detour route. Regardless of whether it is through or local traffic, Contractor shall keep the portion of the project being used by traffic in such condition that traffic will be adequately accommodated.
 - 3. Contractor shall also provide and maintain in a safe condition temporary approaches or crossings and

intersections with trails, roads, streets, businesses, parking lots, driveways residences, garages and farms; however, Contractor will not be required to remove snow.

4. Before any detour is opened to traffic, the Engineer shall have been satisfied that traffic is able to proceed in a safe manner.
5. Contractor shall bear all expense of maintaining traffic over the road being improved as well as constructing, maintaining and subsequently removing Contractor requested detours, approaches, crossings, intersections and other features as may be necessary without any direct compensation.

B. Access to Businesses/Residences

Contractor shall provide to all residents and businesses affected by the project, access to one of their driveways at all times except as modified by the following: If Contractor finds it unavoidable to temporarily close off access for any time, the residents/businesses affected shall be contacted a minimum of 48 hours in advance and an alternate procedure for access mutually agreed to. Contractor shall provide the Engineer with signed evidence of a mutually accepted agreement between the property owner/business manager/residential manager and Contractor prior to said closure.

C. Safety

1. The safety and convenience of the general public and the residents along the project and the protection of persons and property shall be provided for by the Contractor in accordance with the requirements of this contract.
2. Contractor shall submit a Safety Plan to the Engineer at the preconstruction conference. The plan shall detail the procedures The Contractor will implement to satisfy OSHA and the State Occupational Safety Guidelines related to the worker as well as public safety in construction of excavations, structures and confined air spaces as identified by the Engineer. Contractor's Safety Plan shall include the requirement that all workers and visitors must wear hard hats while within the project limits.
3. The Safety Plan submitted by Contractor shall include proposed methods to prevent unauthorized persons from gaining access to the work areas.
4. In conjunction with the Safety Plan, Contractor shall furnish and install 72" temporary chain link fencing, or approved equal satisfactory to the Engineer, around any unattended excavation deeper than four feet with slopes steeper than 2:1. Temporary fencing shall completely enclose the referenced construction activity and shall be secured after normal working hours to prevent unauthorized access.
5. Unless otherwise approved in writing by the Engineer, open utility trenches shall be limited to 50 ft. in length except for cast-in-place pipe installations and during non-working hours shall be covered with steel plate in a manner satisfactory to the Engineer.

107.9 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE

ADD the following:

Mailboxes and traffic signs removed during construction shall be installed in "like kind" and shall be considered incidental to the unit prices for utility work included in the bid schedule, provided they are not in the bid schedule.

Existing landscape improvements, drainage ditches, etc., shall be restored in "like kind" so that the improvement is put back in as close to its prior state as possible

The Contractor shall restore each individual work site to grades existing before construction work, including wheel ruts and other scarring.

Measurement and Payment:

No separate payment will be made for restoration of items impacted by the Contractor's construction operation and the cost of these items shall be included in the unit bid prices in the bid schedule.

ADD the following Section:

107.15 STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

This project is subject to the Arizona Pollutant Discharge Elimination System (AZPDES) stormwater requirements for construction sites under the Environmental Protection Agency (EPA) delegation to the Arizona Department of Environmental Quality (ADEQ) for the Construction General Permit for Arizona. The following specifications shall apply:

A. General Requirements:

The Contractor shall comply with the Arizona Pollutant Discharge Elimination System (AZPDES) Stormwater requirements for construction sites under the Arizona Department of Environmental Quality (ADEQ) Construction General Permit for Arizona. Under provisions of that permit, the Contractor shall be designated as permittee and shall be responsible for providing the necessary labor and materials, and for taking the appropriate measures to assure compliance with the AZPDES Construction General Permit for Arizona as well as other Federal, State and local requirements pertaining to stormwater discharges. As the permittee, the Contractor is responsible for completing, in a manner acceptable to the ADEQ, all documents required by this regulation including the following:

- (1) Stormwater Pollution Prevention Plan shall be sealed by a professional engineer licensed in the State of Arizona.
- (2) Stormwater Pollution Prevention Plan (SWPPP) for the project including certification form. The Contractor will be required to update and revise the SWPPP as necessary throughout the construction of the project in order to assure compliance with ADEQ permit requirements. The completed SWPPP shall be kept on the project site at all times during construction of the project.
- (3) Notice of Intent (NOI) to be covered by AZPDES Construction General Permit for Arizona including certification of signature.
- (4) Notice of Termination (NOT) of coverage under AZPDES Construction General Permit for Arizona (upon project completion).

Copies of necessary forms and guidance for preparing the SWPPP are available at ADEQ's website www.adeq.state.az.us/environ/water/permits/azpdes.html

B. Submittals:

- (1) Preliminary Copies of the NOI and SWPPP shall be submitted to the Engineer at the time of the preconstruction meeting. Any necessary revisions to the SWPPP shall be subject to review by the Engineer, prior to implementation.
- (2) The Contractor shall submit completed, signed NOI forms at least 48 hours prior to the initial start of construction on the project to ADEQ. One copy of the completed, signed NOI form shall be submitted to Arizona Department of Environmental Quality at the following address: Stormwater Program - Water Permits Section/NOI, ADEQ (5415B-3), 1110 West Washington, Phoenix, AZ 850071.
- (3) Failure by the Contractor (or any of its appropriate subcontractors) to submit the NOI forms

within the required time frame shall result in delay of the start of construction. The Contractor shall submit a completed copy of the NOI prior to Notice to Proceed. A copy of the completed NOI shall be posted on the construction site and a copy of the SWPPP shall be kept on the construction site.

C. Contractor's Responsibilities:

(1) It is the Contractor's responsibility to perform inspection of all stormwater pollution control devices on the project on a monthly basis and following each rainfall of 0.50 inches or more at the project site and as required under the AZPDES Construction General Permit for Arizona. The Contractor shall prepare reports on these inspections and retain these reports for a period of three years following project completion as required under the AZPDES Construction General Permit for Arizona. Inspection reports shall be submitted monthly to the contracting agency along with payment requests. The Contractor shall maintain all stormwater pollution control devices on the project in proper working order, including cleaning and/or repair during the duration of the project.

(2) No condition of either the AZPDES Construction General Permit for Arizona or the SWPPP shall release the Contractor from any responsibilities or requirements under other environmental statutes and regulations.

D. Upon total project completion, acceptance, and de-mobilization, the Contractor shall submit its completed, signed NOT form to the ADEQ with Copies to the same agencies who received Copies of the NOI, thereby terminating all AZPDES permit coverage for the project.

Measurement and Payment:

Payment shall be at the lump sum unit price bid in the Contract Documents for all material, labor, and other incidental costs relating to the provision, installation, and maintenance of items relating to this permit during project construction. Such incidental costs shall include Contractor costs in order to assure proper operation of the pollution-control devices installed including all maintenance, cleaning, and disposal costs associated with clean-up and repair following storm events or other runoff or releases on the project.

Pay Item: 107.15 Stormwater Pollution Prevention Plan (SWPPP)

108.4 CONSTRUCTION SCHEDULE

ADD the following:

- A. At the pre-construction meeting the Contractor shall submit for review by the Engineer a complete construction schedule as stated in the General Conditions of these contract documents.
- B. Once this schedule has been accepted by the Engineer, Contractor shall not deviate from it until a revised schedule has been submitted and accepted by the Engineer.
- C. The Engineer reserves the right to reject construction schedule submittals when in his opinion the schedule lacks the proper detail.

109.10 PAYMENT FOR MOBILIZATION/DEMobilIZATION

REPLACE Section 109.10 in its entirety with the following:

The Agency will compensate Contractor for a single round trip mobilization/demobilization of Contractor's personnel, equipment, supplies and incidentals, including establishment of offices, buildings and other facilities required for the performance of the work on the project, as well as preparatory work and operations prior to the commencement of the work on the project site.

Measurement and Payment:

Mobilization will be measured for payment by the lump sum bid as a single complete unit of work. Payment

for mobilization will be made as provided herein which shall be full compensation for supplying and furnishing all materials, facilities, and services and performing all the work involved as specified above. The total amount allowed for mobilization during the life of the contract shall not exceed nine percent (9%) of the original contract amount. If the bid price exceeds this percentage the excess amount will be paid to the Contractor upon completion of the contract and nine percent of the contract amount shall be used to determine partial payments. Partial payments under this item will be made in accordance with the following provisions:

1. The first payment of one third of the lump sum price for mobilization may be made provided that all submissions required under this Section and the General Conditions of the Contract are submitted by the Contractor at the pre-construction conference to the satisfaction of the Engineer and when the Engineer has determined that a significant amount of equipment has been mobilized to the project site which will be used to perform portions of the project work.
2. The second payment of one third of the lump sum price for mobilization shall be made on the first estimate following completion of thirteen percent (13%) of the contract.
3. The third payment of one third of the lump sum price for mobilization will be made on the first estimate following completion of twenty-six percent (26%) of the contract.

Pay Item: 109.10 Mobilization

ADD the following Section:

109.11 CONTRACT ALLOWANCE

- A. Contract allowance items are provided for the purpose of encumbering funds to cover the costs of possible contract amendment work. The amount of the allowance item is determined by the Engineer and is not subject to individual bid pricing. All bidders shall incorporate the amount pre-entered in the bid proposal and shall reflect the same in the total amount bid for this project.
- B. This allowance item provides an estimated funding to cover unforeseen changes that may be encountered and corresponding extra work needed to complete the contract per plan. Unforeseen extra work, if any, shall be in accordance with the Contract Amendment section of the General Conditions.

It shall be understood that this allowance item is an estimate only and is based on contract amendment history of similar projects. It shall not be utilized without an approved contract amendment. It is further understood that authorized extra work, if any, may be less than the allowance item. The Contractor, by submittal of his bid, acknowledges that the total bid and individual bid items were prepared without anticipation of use of the contract allowance.

Pay Item: 109.11 Contract Allowance

ADD the following Sections:

200.1 DEWATERING

- A. All water encountered during the work shall be disposed of by the Contractor in a manner such that it will not damage public or private property or create a public nuisance or health problem. Contractor shall submit drawings and complete design data showing methods and equipment he proposes to utilize in dewatering prior to completing any dewatering work. This work shall consist of obtaining permits, furnishing equipment, materials, and labor necessary for the control and removal of water, the construction or installation of all facilities necessary to accomplish the work, and the subsequent removal of such facilities except when designated on the project plans or in the special provisions to remain in place.
- B. The Contractor shall keep, where appropriate, the rehabilitated pipe section free from water during

rehabilitation. If groundwater is present in any excavation, the static groundwater level shall be drawn down a minimum of one (1) foot below the bottom of excavations to maintain the undisturbed state of natural soils and allow the placement of any fill to the specified density. Disposal of water shall not damage property or create a public nuisance. The Contractor shall have on hand pumping equipment and machinery in good working condition for emergencies and shall have workmen available for its operation. Dewatering systems shall operate continuously until backfill has been completed to one (1) foot above the normal static groundwater level.

Groundwater shall be controlled to prevent softening of the bottom of excavations, or formation of "quick" conditions. Dewatering systems shall not remove natural soils. The Contractor shall control surface runoff to prevent entry or collection of water in excavations.

Release of groundwater to its static level shall be controlled to prevent disturbance of the natural foundation soils or compacted fill and to prevent flotation or movement of structures or pipelines.

Measurement and Payment:

No separate measurement or payment shall be made for dewatering. This work shall be considered incidental and included in the unit price bid for construction or installation of the appropriate contract pay items.

401 TRAFFIC CONTROL

401.1 Description: REPLACE with the following:

Traffic control during construction shall be performed in accordance with MAG Section 401 and the Manual on Uniform Traffic Control Devices for Streets and Highways, US Department of Transportation Federal Highway Administration, latest edition with the latest revisions, Arizona Department of Transportation Traffic Control Manual, the project plans, and as stated herein.

- (A) Prior to beginning the project, Contractor shall submit for approval a Traffic Control Plan for the entire project. He must obtain approval from the Engineer for the Traffic Control Plan and Schedule prior to any construction. Contractor shall submit the Traffic Control Plan to the Director of Public Works at or before the project preconstruction conference.
- (B) Written notice shall be given to the Engineer or his representative on the job 48 hours prior to any changes in detours or routes of access. The notice shall give specific details with maps showing the access to all residences and businesses affected by the project.
- (C) The Police and Fire Departments shall be continually updated on access routes along and through the site during construction.

401.2 Traffic Control Devices: ADD the following:

- (C) All traffic control devices required for the project shall be the responsibility of Contractor.
- (D) When required to cross, obstruct, or close a street, traffic way, or sidewalk for a short duration that is approved by the Director of Public Works, the Contractor shall provide and maintain suitable bridges, detours or other approved temporary means for the accommodation of vehicular and pedestrian traffic.
- (E) When traffic conditions at the construction site warrant the use of certified police personnel to direct traffic, arrangements shall be made with the City of Prescott Police Department, Yavapai County, or Department of Public Safety for off-duty officers.

401.6 Measurement: DELETE in its entirety

401.7 Payment: DELETE in its entirety

ADD the following:

401.6 Measurement and Payment:

Payment for traffic control shall be at the applicable unit price bid in the Contract Documents.

1. Preparation of traffic control plan shall be inclusive of all submittals, reviews and if needed, re-submittals.
2. Flaggers shall be per hour for actual time directing traffic. It does not include travel time or time spent setting up or taking down devices.
3. In the event off-duty police personnel are required to direct traffic, the Bid Schedule includes an allowance for Certified Police Personnel for the purpose of encumbering funds to cover the cost of Certified Police Personnel. The amount of the allowance is determined by the Engineer and is not subject to individual bid pricing. All bidders shall incorporate the amount in the bid proposal and shall reflect the same in the total bid for this project.

It shall be understood that this allowance is an estimate only. The allowance shall be not used without approval of the Engineer.

Reimbursement for Certified Police Personnel shall be based on actual cost, plus an allowable markup to the prime contractor of 15%, for use of Certified Police Personnel approved by the Engineer.

Flagmen, uniformed off-duty law enforcement officers or pilot cars, with driver, will be measured by the hour for each individual, including vehicle and equipment, required to perform traffic control. When an officer is used less than 3 hours, a minimum of 3 hours will be charged. Anything over 3 hours will be measured by the hour.

Payment will be made at the contract bid price in the proposal for uniformed, off-duty law enforcement officer. If the officer is utilized in excess of 8 hours in any calendar day or in excess of 40 hours in any calendar work week, payment shall be at the rate of 1 1/2 times the contract bid price for all hours worked in excess in either of the above time periods.

4. Barricades and storage shall be at the lump sum bid and shall be inclusive of all temporary signs and devices in the traffic control plan and as required by the MUTCD and the Engineer.
5. Message boards shall be measured by each per day as determined necessary by the approved traffic control plan and the Engineer.
6. Pilot car and driver shall be per hour for actual time used as required by the approved traffic control plan and the Engineer. It does not include travel time or time spent setting up or taking down devices.
7. Incidental traffic related items shall include all other pertinent tools, equipment, devices and or work required to provide safe and effective traffic control in accordance with the approved traffic control plan, the MUTCD and the Engineer.

Pay Item: 401 Traffic Control Plan (LS)

Pay Item: 401.2a Barricades and Storage (LS)

Pay Item: 401.2b Message Boards (each per day)

Pay Item: 401.2c Incidental Traffic Related Items (LS)

Pay Item: 401.3a Flaggers (HR)

Pay Item: 401.3b Off Duty Police Officers (HR)

Pay Item: 401.3c Pilot Car and Driver (HR)

430 LANDSCAPING AND PLANTING

430.3.2 Seeding:

REPLACE in its entirety with the following:

430.3.2 Seeding (Hydraulic):

- A. Seeding consists of furnishing and applying chemical fertilizer; furnishing and planting seed and furnishing, applying and affixing mulch. The areas to be seeded are disturbed or un-vegetated areas. Slopes are required to be seeded immediately upon completion; coordination with grading operations will be required.

Application rates of seed as specified are for Pure Live Seed (PLS). PLS is determined by multiplying the sum of the germination and hard or dormant seed by purity. Weed content of seed shall not exceed 0.5 percent. No substitution of species, strain or origin of seed will be allowed unless evidence is submitted in writing by the Contractor to the Engineer showing that the specified materials are not reasonably available during the contract period. The substitution of species, strains or origins shall be made only with the written approval of the Engineer, prior to making said substitution.

The seed shall be delivered to the project site in standard, sealed, undamaged containers. Each container shall be labeled in accordance with Arizona Revised Statutes and the U.S. Department of Agriculture rules and regulations under the Federal Seed Act. Labels shall indicate the variety or strain of seed, the percentage of germination, purity and weed content, and the date of analysis, which shall not be more than 9 months prior to the delivery date.

B. SEED MIX

Botanical Name	Common Name	Seed/ Lb.	Rate/Acre-PLS (Pure Live Seed)
Agropyron dasystachym	Thickspike Wheatgrass	154,000	3.0
Bouteloua gracilis	Blue Gramma	825,000	2.0
Koeleria crisata	Prairie Junegrass	825,000	1.0
Mulenbergia wrightii	Spike Muhly	1,000,000	1.5
Festuca arizonica	Arizona Fescue	500,000	2.0
Sitnian hystrix	Squirrel Tail	192,000	4.0
Sporobolus cryptandrus	Sand Dropseed	5,298,000	0.75

C. Seed Supply Agreement:

The required species may be in short supply during this project. Therefore, the Contractor shall enter a contractual agreement with a seed collector/supplier that verifies that sufficient supply of specified plant materials will be available on or immediately prior to the seeding dates. This requirement shall be fulfilled within 45 days following the preconstruction conference in order to allow sufficient time for seed collection. The Contractor shall provide written notification to the Engineer verifying that the required species are available and secured for the project. The collection contractor shall test the seed for purity and viability and hold the seed in a manner which maintains its' viability. The Contractor shall submit purity and viability test results to the Engineer for approval prior to the initiation of seeding operations. If it is required to be held for more than a year from initial testing the seed shall be tested again for viability. The Contractor shall compensate the seed supplier a percentage of the seed cost to

hold seed material and for the seed tests as identified in Basis for Payment.

D. General:

The slurry for the hydroseed process shall be as follows:

SLURRY MIX	RATE
Hydrofiber: Silva, Conwed, or Spray mulch x-100 wood fiber, or equivalent	800 lbs./acre
Tackifier:	80 lbs. active ingred./acre
Starter fertilizer: Ammonium Phosphate	16-20-0 200 lbs./acre
Seed mix:	As Specified
Soil conditioner	1000 lbs./acre

The seed shall be applied within 30 minutes after being combined with the slurry mix.

INGREDIENTS FOR SLURRY APPLICATION	PERCENTAGES (MINIMUM)
Nitrogen	5
Phosphoric Acid	3
Water soluble Potash	1
Humas	50
Humic Acids	15
Soluble Metallic Iron	1

E. Wood Cellulose Fibers:

Wood fiber mulch shall consist of a specially prepared wood fiber processed to contain no growth germination inhibiting factors. The mulch shall be virgin wood and be manufactured and processed so the fibers will remain in uniform suspension in water under agitation to form a homogenous slurry. The mulch shall have a pH range between 4.5 to 6.5.

When hydraulically sprayed on the ground, the material will form a blotter-like cover impregnated uniformly with seed. The cover will allow the absorption of moisture and allow rainfall to percolate to the underlying area.

F. Tacking Agent:

Binder shall be free flowing, non-corrosive powder produced from natural plant gum marketed under M-Binder, M145 Binder, AZ-TAC or approved equal. It shall have gelling properties to inhibit the tendency of water and fiber to move downhill as they are sprayed on steep slopes.

G. Construction Requirements:

1. General:

The Engineer will regularly observe the weighing of seed, mixing of slurry mix, and application of seed.

2. Seeding:

Seeding shall be done immediately following the final grading or disking of each cut slope and each fill slope. The soil surface shall be loose. The Contractor will be required to mobilize frequently to accomplish this goal. No seeding shall be carried out under wind conditions exceeding 5 m.p.h. Scheduling of seeding mobilization will be coordinated with the Engineer at the weekly construction meetings. In no case shall a decision by the Engineer relieve the Contractor from the requirement of seeding prior to measurable rainfall. If measurable rain falls prior to seeding, or if the surface of the

graded area has formed a crust or slightly hardened surface, the Contractor shall be responsible for ripping, blading or loosening the ground surface, or otherwise repairing and/or preparing the affected areas for seed, after they adequately dry out and prior to seeding, at no cost to the Owner. The use of specialized equipment or manual methods may be required to prepare the surface for seeding, if seeding is not accomplished immediately after grading or disking.

Seed is to be accomplished during the window of June 1 to July 15 and November 1 to January 30. These windows are to allow expected seasonal rains to start germination process.

All areas disturbed by construction are to be seeded. This may be more area than shown on the plans. All areas are to be approved by Engineer. The Contractor shall coordinate seeding operations with slope construction so that the tops of cuts and toes of fills can be reached with hydroseed equipment.

Hoses may be used where heavy equipment cannot access.

3. Tillage:

All slopes steeper than 3:1 shall either have a loose, friable soil depth of 2" or more or be tilled a minimum of 4" in depth as they are constructed.

Tillage shall be accomplished with a ripper bar, chisel plow or harrow tool or with other equipment which will provide thorough soil cultivation.

Tillage shall be performed long the contour. The slopes behind guardrail, and in the ditch line in cut shall be left with roughened surface to aid in water absorption. Seeded areas which are not behind guardrail or between the ditch line and the roadway on a cut shall be left in a Firm surface free of foreign material that would interfere in the seeding operation.

No work shall be done when the moisture content of the soil is unfavorable or the ground is otherwise in a condition not conducive to tillage.

Planting:

The Contractor shall submit a batch (tank) mix for the Engineer's approval prior to mixing any seed/mulch slurry. Batch mixing and coverage will be monitored throughout seeding operations. The Contractor is to coordinate monitoring with the Engineer in advance of mixing.

After the tillage is complete and accepted by the Engineer, seed shall be planted by slurry mix (cut slopes steeper than 3:1).

All areas to be seeded shall have a starter fertilizer of ammonium phosphate 16-20-0 applied at a rate of 200 pounds per acre and soil condition at the rate of 1,000 pounds per acre.

Any material sprayed on non-designated areas shall be immediately removed by the Contractor at his expense. Non-designated areas include pavement, guardrails, signs, plants and existing vegetation.

Anchorage by Tacking:

Mulch shall be anchored by tacking using a slurry consisting of a minimum of 150 pounds of binder, 400 pounds of wood fiber mulch and 700 gallons of water per acre.

Preservation of Seeded Areas:

Any material sprayed on non-designated areas shall be immediately removed by the Contractor at his expense. Non-designated areas include pavement, guard rails, signs, plants, and existing vegetation.

Warranty:

The Contractor shall guarantee that 75% of the applied tackifier remain in place for a period of 30 days after acceptance of the seeding application, Any areas that have less than 75% of the tackifier remaining

shall be reseeded, re-mulched and retacked at the Contractor's expense.

Areas that require reseeding and re-mulching under the warranty shall be done at no additional cost to the City of Prescott. The 30 day period(s) shall be within the allotted contract time.

Measurement and Payment:

Seeding will be measured by the acre, to the nearest tenth acre, measured along the ground surface for the areas which have been plated and mulched, as determined by the Engineer. The Contractor may be reimbursed a partial payment based on the invoice amount for the cost to hold and test the seed in conformance with the Seed Supply Agreement.

The accepted quantities of seeding, measured as provided above, will be paid for at the contract price per acre for the full performance of the work herein described, which price shall be full compensation for the work completed including all equipment, labor and materials required.

Pay Item: 430.3.2 Seeding (Hydraulic)

ADD the following Section:

725 PORTLAND CEMENT CONCRETE

725.1 General: ADD the following:

All Portland cement concrete placed under this contract shall be Class AA with a maximum water/cement ratio of 0.45.

Adverse Weather Concreting

A. Hot Weather Concreting:

Hot weather is defined as any combination of high ambient temperature, low relative humidity, and wind velocity which would tend to impair the quality of fresh concrete. These effects become more pronounced as wind velocity increases. Since last minute improvisations are rarely successful, preplanning and coordination of all phases of the work are required to minimize these adverse effects.

Place concrete according to recommendations in ACI 305R and as follows, when hot-weather conditions exist:

1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is CONTRACTOR's option.
2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

As an absolute minimum, the Contractor shall insure that the following measures are taken:

1. An ample supply of water, hoses, and fog nozzles are available at the site.
2. Spare vibrators are on hand in the ratio of one spare vibrator for each three in use.
3. Preplanning has been accomplished to insure prompt placement, consolidation, finishing, and curing of the concrete.
4. Concrete temperature on arrival should be approximately 60°F and in any event shall not exceed

90°F. The use of cold water and ice is recommended.

5. The subgrade is moist, but free of standing water.
6. Fog spray is utilized to cool the forms and steel. Under extreme conditions of high ambient temperature, exposure to the direct rays of the sun, low relative humidity, and wind, even strict adherence to these measures may not produce the quality desired and it may be necessary to restrict concrete placement to early morning only. If this decision is made, then particular attention must be directed to the curing process since the concrete will be exposed to severe thermal stresses due to temperature variation; heat of hydration plus midday sun radiation versus nighttime cooling.

B. Cold Weather Concreting:

Comply with ACI 306 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.
- C. Wet Weather Concreting: Placing of concrete shall be discontinued when the quantity of rainfall is such as to cause a flow or wash to the surface. Any concrete already placed and partially cured shall be covered to prevent dimpling. A construction joint will be installed prior to shut down.
- D. Replacement of Damaged or Defective Concrete: Upon written notice from the Engineer, all concrete which has been damaged or is defective, shall be replaced by the Contractor at no cost to the Contracting Agency.

E. References:

- (1) ACI-305 Hot Weather Concreting
- (2) ACI-306 Cold Weather Concreting
- (3) ACI-308 Recommended Practices for Curing Concrete

- F. No separate payment shall be made for adverse weather concreting. The work shall be considered incidental and included in the unit price bid for construction or installation of the appropriate contract pay item.

725.5 Admixtures and Additives: REPLACE the third (3rd) paragraph in its entirety with the following:

Air entraining admixtures incorporated into the approved concrete mix design shall meet the requirements of ASTM C260. All Portland cement concrete shall contain 6%, plus or minus 1%, entrained air of evenly dispersed air bubbles at the time of placement. The air-entraining agent shall contain no chlorides. The air-entraining agent shall be added to the batch in a portion of the mixing water. The solution shall be batched by means of a mechanical batcher capable of accurate measurement. Air entrainment in the concrete shall be tested in accordance with AASHTO T-152. Air entrainment shall be tested at time of sampling in accordance with ASTM C143 and C231 respectively. The cost of this testing shall be the responsibility of the Contractor.

725.8 Tests and Test Methods:

725.8.1 Field Sampling and Tests: REPLACE the fourth (4th) paragraph in its entirety with the following:

The slump of Portland cement concrete shall be tested in accordance with the requirements of AASHTO T119, ASTM C143 and ASTM C231 respectively. Concrete that does not meet the specification requirements as to slump shall not be used, but shall be removed from the job at no cost to the CITY. Slump tests shall be taken in the field by a representative of the Contractor's quality control firm. The cost of this testing shall be the responsibility of the Contractor.

725.8.2 Concrete Cylinder Test: MODIFY with the following:

Concrete cylindrical specimens for compression tests shall be taken in the field by a representative of the Contractor's quality control firm in accordance with AASHTO T141 and T-23. These samples will be tested for compressive strength in accordance to AASHTO T22. Concrete samples will be taken in accordance with MAG 725.8.2 and 725.8.3 except as noted hereinafter. One set of not less than four (4) cylinders per fifty (50) cubic yards or ½ days pour shall be prepared and retained to verify compressive strength of the mixture. One (1) cylinder shall be tested at seven (7) days and two (2) at twenty-eight (28) days. The fourth (4th) cylinder shall be retained for up to sixty (60) days. If the 28-day test does not meet the minimum strength requirement, cores shall be taken as provided herein and the cost of such will be the responsibility of the Contractor. Acceptance shall be based on minimum 28-day strength requirements. The cost of testing shall be the responsibility of the Contractor.

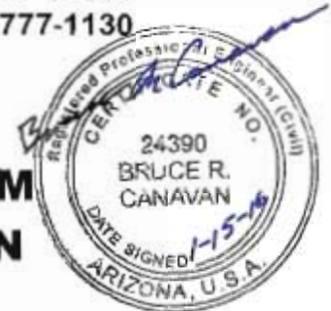
SPECIAL PROVISIONS

Public Works Department



433 N. Virginia Street
Prescott, AZ 86301
(928) 777-1130

**STORAGE TANK MAINTENANCE PROGRAM
PHASE I – SOUTH TANK REHABILITATION**



SPECIAL PROVISIONS

The following Special Provisions shall modify and supersede the various sections of the City of Prescott Technical Specifications Supplement to MAG as indicated:

100.1 SCOPE OF WORK

The following sections are added to the Technical Specifications (T. S.):

D. Site Access

The South Tank is located at the end of an unpaved, single lane roadway extending south of the southerly terminus of paved S. Washington Avenue. No other access route to the site will be allowed.

The Contractor will take no vehicles or equipment onto the tank roof with an AASHTO rating greater than H5 and maximum gross vehicle weight of 10,000 pounds.

E. Qualifications

The Contractor shall provide the City a statement of their general qualifications and specific experience in concrete water tank rehabilitation and coating. A list of the individuals responsible for providing professional services under this contract shall be submitted with their name, address, and specific responsibility provided. The Contractor shall submit a detailed reference list of potable water storage tank renovation, inspections, and repairs.

The Contractor shall have a minimum of five (5) years practical experience and successful history in the application of the specified products and repairs to concrete structures and tanks.

100.3 GENERAL NOTES

T. S. Paragraph 100.3.EE is revised as follows:

Acceptance of the completed project work will not be given until the contractor's redlined as-built plans have been submitted by the Contractor and reviewed/approved approved by the Engineer. The City will produce the final as-builts.

Prior to project acceptance, the Contractor shall be responsible for providing the City of Prescott with all required test results, material certifications and red-lined as-builts as required elsewhere in these specifications. This information will be reviewed by the City and, if deemed correct and acceptable, the project will be released along with any funds retained, subject to any other outstanding claims or payments that may affect this provision.

104.1.5 FINAL CLEANING UP

T. S. Paragraph 104.1.5 is supplemented as follows:

Gates, fences, signs, and other existing improvements removed or relocated or damaged by the contractor during construction shall be reinstalled in "like kind" and shall be considered incidental to the unit prices bid for the work items included in the bidding schedule.

106.2 CONTRACTOR QUALITY CONTROL

T. S. Paragraph 106.2.B, Sampling Table is deleted in its entirety and replaced as follows:

Minimum Quality Control Sampling Guidelines (may not include all required testing)

MATERIAL TYPE	REQUIRED TEST	SAMPLING POINT	SAMPLING FREQUENCY	REQUIRED RESULT
Concrete Surface Patch	Compression	At Mixer	One per Day's Production	4,000 psi @ 28 days
Concrete Joint Patch	Compression	At Mixer	One per Day's Production	4,000 psi @ 28 days

106.5 STORAGE OF MATERIALS

Paragraph 106.5 of- MAG is supplemented as follows:

The site shall be temporarily fenced to contain all vehicles, materials, and equipment and shall be at a location off of the roof of the tank. The Contractor shall be responsible for site security during the project.

No separate payment shall be made for temporary fencing. Said fencing shall be considered incidental to other pay items.

106.9 QUALITY ACCEPTANCE TESTING

T. S. Paragraph 106.9.B is revised as follows:

Contractor and/or Contractor's Quality Control laboratory representative and the engineer's representative shall coordinate on a daily basis the following day's work schedule and any testing that may be necessary. The Engineer's quality acceptance testing will generally consist of, but not be limited to, the tests identified in Section 106.2. Frequency of such tests will be established by the Engineer's representative.

107.15 STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

T. S. Replace 107.15 with the following:

It is anticipated that this project will not be subjected to the requirements of the Arizona Pollutant discharge Elimination System (AZPDES) storm water requirements for the construction sites because each site will have less than one tenth of an acre (0.1 ac.) of surface disturbance. However, the Contractor will be required to install, operate and maintain Best Management Practices (BMP's) for containment and disposal of concrete debris, waste and runoff from the construction activities at each site.

- A. The Contractor shall appoint and identify for the City the person responsible for the implementation of the BMP's. The Contractor shall contain and properly dispose of all silt, sediment, debris and all other deleterious materials. Only clean water will be allowed to leave the site via the drainage channels.

The Contractor shall properly seal off the inlets and outlets to prevent deleterious materials detrimental to the water supply from entering into the water supply system.

- B. The Contractor shall submit to the City for review and approval a copy of the BMP's proposed for use and implementation at each of the sites. No repair work shall commence until this submittal is approved and the BMP's installed, inspected and approved.
- C. It is the Contractor's responsibility to perform inspection of all BMP's on a weekly basis, on a daily basis if mechanical equipment is involved or following each measurable rainfall at the project site. The Contractor shall coordinate with the City's Project Manger and inspector prior to each inspection. The Contractor shall inform them as to the results of these inspections and any corrective actions taken.
- D. Upon total project completion, acceptance and demobilization, the Contractor shall remove all BMP's and restore the surface to prior grades and condition.
- E. No separate measurement or payment shall be made for submittals, installation, operation and maintenance of BMP's required for this project. Such costs shall be considered incidental to the work and included in other bid items.

107.5 SAFETY, HEALTH AND SANITATION PROVISIONS

Paragraph 107.5 of MAG is supplemented as follows:

- A. General
 - 1. The Contractor is responsible for supplying their own fall protection equipment whenever circumstances dictate the need. This equipment shall include an OSHA

approved safety harness with a double lanyard tie-off system. Additionally, all personnel using the ladder shall hold current fall protection certifications. Proof of certification will be required to be provided to the City.

2. All ladders, scaffolding and rigging shall be designed for their intended uses. Ladders and scaffolding shall be erected where requested by Project Inspector to facilitate inspection and be moved by the Contractor to locations requested by the Project Inspector.
3. The Contractor shall be responsible for providing contractor employees all equipment and safe practices for confined space entry per OSHA requirements. These procedures shall include LEL and O₂ monitoring with appropriate documentation. Each contractor employee entering the tank shall possess current confined space certification. Proof of certification will be required prior to entering the tank.
4. The Contractor shall be responsible for providing all lighting, temporary power, scaffolding, sanitation facilities, all other labor, materials, and equipment necessary to deliver a complete product.
5. Ventilation, electrical grounding, and care in handling coatings, paints, solvents and equipment are important safety precautions during coating and painting projects.
6. Contractor shall conform with safety requirements set forth by regulatory agencies applicable to the construction industry and manufacturers printed instructions and appropriate technical bulletins and manuals. The Contractor shall provide and require use of personal protective life saving equipment for persons working in or about the project site.
7. All work shall be performed in accordance with the applicable safety and health standards, the requirements of the contract and these specifications. Certain additional safety precautions shall be employed to prevent skin and eye contact with the chemicals, resins or monomeric materials. Protective glasses and clothing, including rubber or plastic gloves shall be supplied by the Contractor and worn handling these materials. All exposed areas of skin shall be protected with a barrier cream formulated for that purpose. Barrier cream for skin protection shall be as specified for the materials used and approved by a physician. Adequate ventilation shall be provided and maintained at all times during preparation and use of monomeric materials and solvents. If necessary, respirators that filter organic fumes and mists shall be worn. All contaminated materials such as wipes, empty containers and waste material shall be continually deposited in containers that are protected from spillage. Spillage shall be immediately and thoroughly cleaned up and disposed of in accordance with applicable regulations.
8. Federal Standard No. 313, as amended, for the preparation and submission of MSDS is hereby incorporated and made a part of these specifications.

9. In accordance with the clause of the contract entitled "Hazardous material Identification and Material Safety Data", the Contractor shall submit a complete MSDS, Department of Labor OSHA-174, or GSA-approved Alternate Form A for each hazardous material as required by Federal Standard No. 313, as amended. The information in this MSDS shall be followed to assure safe use, handling and an environmentally acceptable disposal of the commodity used on the job sites.
10. The Contractor shall submit to the Engineer, as identified in Section 3 above, completed MSDS and identification and certification of the material.

B. Ventilation:

1. Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof or industrial design and shall be approved by the Engineer. Household-type venting equipment will not be acceptable. Ventilation shall reduce the concentration of air contaminants to the degree a hazard does not exist by ducting air, vapors, etc. from the confined space. Air circulation and exhausting of solvent vapors shall be continued until coatings have fully cured. Forced air ducting during blast cleaning, repairs and coating application operations is mandatory. If dehumidification equipment is used, equipment must be operated on a continuing basis during all blasting, repairs, coating and curing operations, including shifts during which no work is being accomplished.
2. Ventilation system shall be furnished and installed by the Contractor in accordance with these specifications. The Contractor shall make modifications to the ventilation system as directed by the Engineer to ensure a safe working environment and complete removal of all solvent vapors. Upon completion of the final curing period, as determined by the project specifications and Engineer, the Contractor shall remove the ventilation system.
3. The exhaust blower capacity shall be sufficient to maintain air changes within reservoir interior in accordance with OSHA regulations and coating manufacturer's recommendations for Concrete Water Tanks.
4. If Contractor proposes to use dehumidification equipment, or any other alternate ventilation system, Contractor must submit, in advance, for approval by the Engineer, a complete list of the equipment and procedures for its use.

C. Head and Face Protection and Respiratory Devices:

1. Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the work. During abrasive blasting operations, nozzle men shall wear U.S. Bureau of Mines approved air-supplied helmets and all other persons who are exposed to blasting dust shall wear approved filter-type respiratory and safety goggles. When coatings are applied in confined areas all persons exposed to toxic vapors shall

wear approved air-supplied masks. Barrier creams shall be used on any exposed areas of skin.

D. Grounding:

1. Blasting, spray and air hoses shall be grounded to prevent accumulation of charges of static electricity.

E. Illumination:

1. Spark proof artificial lighting shall be provided for all work in confined spaces. Light bulbs shall be guarded to prevent breakage. Lighting fixtures and flexible cords shall comply with the requirements of NFPA 70 National Electric Code for the atmosphere in which they will be used. Whenever required by the Engineer, the Contractor shall provide additional illumination and necessary supports to cover all areas to be inspected. The level of illumination for inspection purposes shall be determined by the Project Manager.

- F. Toxicity and Explosiveness: The AWWA approved solvents used with specified protective coatings may be explosive at low concentrations and are highly toxic. Because of toxicity, the maximum allowable concentration of vapor shall be kept below the maximum safe concentration for eight-hour exposure, plus Lower Explosive Limit must be strictly adhered to. All regulations related to safety personnel and handling of such materials shall be strictly adhered to.

- G. Protective Clothing: Coating, repair materials and paint/sealer materials may be irritating to the skin and eyes. When handling or mixing coatings and paint/sealers, workmen shall wear gloves and eye shields.

- H. Fire: During mixing and application of coatings and paint/sealers, all flames, welding and smoking shall be prohibited in the vicinity. Appropriate type fire extinguishers shall be provided by the Contractor and kept at the job-site during all operations.

- I. Sound Levels: Whenever the occupational noise exposure exceeds the maximum allowable sound levels, the Contractor shall provide and require the use of approved ear protective devices.

- J. General sound levels for project shall be those which will not affect routine facility or neighborhood activities. Whenever levels are objectionable, they shall be adjusted as directed by the Engineer.

107.6 PUBLIC CONVENIENCE AND SAFETY

T. S. Paragraph 107.6.C.4 is supplemented as follows:

The Contractor shall store and secure all materials to be used in the construction in such a manner to maintain the integrity of those materials and to protect the public from any hazardous material contact.

400.1 TRAFFIC CONTROL

T. S. Section 400.1 is supplemented as follows:

There is no anticipated need for traffic control. Should traffic control be needed, said traffic control shall be per these specifications. No separate payment shall be made for traffic control.

Delete Pay Items

430 LANDSCAPING AND PLANTING

Section 430.3.2 Seeding is modified as follows:

Wherever the Contractor's activities disturb the ground surface and existing vegetation on the tank site, the Contractor shall provide and install hydro-seed per the Technical Specifications. No separate payment shall be made for hydro-seeding and restoring disturbed vegetation.

Delete Pay Items

501 INTERIOR SURFACE PREPARATION

Section 501 Interior Surface Preparation is added as follows:

SURFACE PREPARATION, GENERAL:

- A. The latest revision of the following surface preparation specifications of the Concrete Potable Water Tanks/Structures shall form a part of this specification. (Note: An element of surface area is defined as any given square inch of surface).

Once the reservoir is drained of water and sufficiently dry to work in, the Contractor shall thoroughly clean the interior of the tank as follows:

1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, soil and other contaminants by use of solvents, emulsions, cleaning compounds, steam cleaning or similar materials and methods, which involve a solvent or cleaning action.

2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mill scale and other detrimental foreign matter present to degree specified by hand chipping, scraping, sanding and wire brushing.
 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mill scale and other detrimental foreign matter present to degree specified by power wire brushing, power impact tools or power sanders.
 4. White Metal Blast Cleaning (SSPC-SP5): Blast cleaning to white metal cleanliness until 100% of the surface area is free of all visible residues.
 5. Commercial Blast Cleaning (SSPC-SP6): Blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.
 6. Brush-off Blast Cleaning (SSPC-SP7): Blast cleaning to remove loose rust, loose mill scale, and other detrimental foreign matter present to the degree specified.
 7. Near-White Blast Cleaning (SSPC-SP10): Blast cleaning to near-white metal cleanliness, until at least ninety-five% of each element of surface area is free of all visible residues.
 8. Power Tool Cleaning to Bare Metal (SSPC-SP11): Power tool cleaning to produce a bare metal surface and to retain or produce a surface profile of at least one mil.
- B. Abrasive blasting nozzles shall be equipped with dead-man emergency shut-off nozzles. Blast nozzle pressure shall be a minimum of 95 P.S.I. and shall be verified by using an approved nozzle pressure gauge at each start-up period or as directed by the Engineer. Number of nozzles used during all blast cleaning operations must be sufficient to ensure timely completion of project as approved and directed by Engineer.
- C. All blast hose connections shall be taped with duct tape prior to pressurizing. All taped connections shall be visually inspected for leaks within five minutes after start of blast cleaning operations and at the end of blast cleaning operations. Leaking connections shall be immediately repaired to prevent further damage.
- D. Interior blast cleaning for all surfaces shall be by wet method unless otherwise directed.
- E. Particle size of abrasives used in blast cleaning shall be that which will produce a 2.0 mil surface profile, or in accordance with recommendations of the manufacturer of the specified coating or sealer system to be applied, subject to approval of the Engineer.
- F. Abrasive used in blast cleaning operations shall be new, washed, graded and free of contaminants which would interfere with adhesion of coatings and sealants and shall not be reused unless specifically approved by the Engineer.

- G. During blast cleaning operations, caution shall be exercised to ensure existing coatings, sealants and insulation are not exposed to abrasive from blast cleaning.
- H. Blast cleaning from rolling scaffolds shall only be accomplished within confines of interior perimeter of scaffold. Reaching beyond limits of perimeter will be allowed only if blast nozzle is maintained in a position which will produce a profile acceptable to the Engineer.
- I. The Contractor shall keep the area of his work in a clean condition and shall not permit blasting materials to accumulate as to constitute a nuisance or hazard to the prosecution of the work of the operation of the existing facilities. Spent abrasives and other debris shall be removed at the Contractors expense, as directed by the Engineer. If waste is determined to be hazardous, disposal by Contractor shall meet requirements of all regulatory agencies for handling and disposing of such wastes.
- J. Blast cleaned and coated/painted/sealer surfaces shall be cleaned prior to application of specified coatings or sealants via a combination of blowing with clean dry air, brushing/sweeping and/or vacuuming as directed by the Engineer. Air hose for blowing shall be at least ½” in diameter and shall be equipped with a shut-off device.
- K. Exterior surfaces; Not Applicable
- L. Interior Area Surface Preparation shall conform to AWWA Standards of Concrete repair applications.

SURFACE PREPARATION, SPECIFIC:

- A. Interior roof, roof supports, girders, columns, interior shell, floor, overflow, and all interior concrete and carbon steel surfaces.

Blast cleanliness = SSPC-SP10
Blast profile = 2.0 mm minimum
Touch-up = SSPC-SP11

PAYMENT:

Payment for Interior Surface Preparation shall include all labor, materials, tools, equipment, and incidentals as needed for initial cleaning, surface preparation, maintenance of cleaned surfaces, and all subsequent cleaning necessary to provide a complete unit of work.

Pay Item: 501 Interior Surface Preparation (L. S.)

502 CONCRETE REPAIRS

Section 502 Concrete Repairs is added as follows:

502 CONCRETE REPAIRS

A. GENERAL

This section defines the requirements for concrete crack repairs, concrete repairs and joint repair of the interior of the existing concrete water storage tank. The Contractor shall perform the various repairs and coating in accordance with the materials, procedures and methods as detailed in these Specifications. The locations shall be as identified on the project plans and also as directed by the Engineer.

B. SUBMITTALS

Submittals shall be in accordance with these specifications and the contract documents. The Contractor shall submit, either at the pre-construction conference following notification of award of the contract or a minimum of two (2) weeks prior to the scheduled start of repair work (whichever is longer) approval the following information:

- a. Repair schedule
- b. Safety plan
- c. Quality control repair plans
- d. Drawings and calculations for any temporary scaffolding or conveyance structures
- e. Material Safety Data Sheets (MSDS)
- f. Concrete mix designs and/or pre-packaged material
- g. Epoxy bonding agent
- h. Joint sealant and backing rod
- i. Curing compound

C. QUALITY CONTROL

Quality control shall be in accordance with the requirements of the contract entitled "Contractor Quality Control" and with the requirements of these specifications.

All concrete shall be repaired as necessary to produce surfaces conforming to the specified tolerances and finish requirements of the contract and in Section E of these specifications.

If, in the opinion of the Engineer, the results of concrete repair indicate that the proper quality control procedures are not being consistently utilized or applied, further repair work may be suspended in whole or in part at the discretion of the Engineer. Such

suspension will remain in effect until the Contractor demonstrates, to the satisfaction of the Engineer, substantial improvement in quality control procedures and results.

1. Contractor's Quality Control – In accordance with the section in the contract entitled "Inspection of Construction", the Contractor shall be responsible for providing quality control measures to ensure compliance of all repairs with these specifications. The Contractor shall implement necessary and appropriate quality control procedures to ensure that all concrete repairs conform to the requirements of these specifications.
2. City Inspection and Tests – City inspection and tests will be in accordance with the Sections of the contract entitled Inspection and Quality Acceptance Testing, and with these specifications.
3. Not less than twenty four (24) hours in advance of any concrete repair, the Contractor shall inform the Engineer when the concrete repairs will be performed and, unless inspection is specifically waived, the repairs shall be performed only in the presence of the Engineer or his representative.
4. Testing – Except as specified in "Quality Acceptance Testing" of the specifications and special provisions, the Contractor shall perform all tests. The Contractor shall provide all materials, equipment and labor necessary for performing the tests at no additional cost to the City.
5. Approval – Approval of the repairs will be based on the inspection and testing requirements of these specifications.
6. Rejection – Repairs that fail to meet the requirements of these specifications will be rejected by the Engineer, removed and replaced at the Contractor's expense.

D. MATERIALS AND WORKMANSHIP

General:

1. The Contractor shall furnish all materials for repair or maintenance of concrete and shall furnish all materials for forming, placing, finishing, curing and protection of the repairs as required. All materials shall meet or exceed materials specifications as specified in Section C, and all equipment used and methods of operation for the repair or maintenance of concrete shall be subject to review and approval by the Engineer. Such review and approval does not relieve the Contractor of the ultimate responsibility to install acceptable repairs.
2. The reference to materials in the specifications, wherein manufacturer's products or brands are specified by "brand name or equal" purchase descriptions, are made as standards of comparison only as to type, design, character or quality of

the article required, and do not restrict the Contractor to the manufacturer's products or to the specific brands named. It shall be the responsibility of the Contractor to prove equality of materials and products to those referenced and to provide all descriptive information, test results and other evidence as may be necessary to prove equality of those materials or products which the Contractor offers as being equal to those being referenced.

3. Portland Cement shall meet the requirements of ASTM C 150 for Type II cement.
4. Portland Cement Concrete shall meet the requirements of ACI 301 for structural repairs. Water Reducing Admixture shall conform to ASTM C 494 Type A and shall not contain chlorides and shall also have demonstrated compatibility with all other concrete admixtures and materials.
5. Air Entraining Admixture shall conform to ASTM C 260 and shall have demonstrated compatibility with all other concrete admixtures and materials.
6. Epoxy Resin Bonding System shall meet the requirements of these specifications, ASTM C811 for a type II, Grade 2, class B or C system. In addition, it shall be a 100-percent solids system and shall not contain nonreactive diluents or wetting agents. Volatile solvents shall not be incorporated into the epoxy system.
7. Joint Sealant shall be a cold applied one- or two-part elastomeric sealant with closed cell backing rod conforming to ASTM C 920 and NSF 61 certified.
8. Curing compound may be a wax-base (type I) or water emulsified resin-base (type II) conforming to the requirements of USBR "Specifications for Concrete Curing Compounds" (M30).
9. Prepackaged concrete material, if used, shall meet the requirements of Five Star Structural Concrete as manufactured by Five Star Products, Inc., Fairfield, Connecticut; or approved equal. The Material shall be modified at the job site with the addition of coarse aggregate in the proportions as recommended by the manufacturer.

CONCRETE CRACK REPAIRS

A. GENERAL:

Once the reservoir is drained of water and sufficiently dry to work in, the existing interior patches not firmly bonded to the substrate concrete shall be removed and the surface shall be prepared by high pressure water blasting, bush hammering of inaccessible areas or sawcut corners, or any other approved method with approved equipment, after which the surfaces of existing concrete shall be prepared by contained shot blasting, wet sand blasting or water blasting to remove any micro-fractured surfaces resulting from the initial removal process. The surfaces shall then be cleaned, inspected and allowed to dry thoroughly, unless the specific repair technique requires application of materials to a saturated surface dry (SSD) substrate. Concrete removal process involving the use of jackhammers in excess of thirty pounds (30#), dry sandblasting or

scrabblers shall not be used without the specific written approval of the Engineer. The use of acids for cleaning or preparing concrete surfaces for repair will not be permitted. Such removal, unless specifically identified in the Bid Schedule, shall be considered incidental to the surface preparation.

B. MAINTENANCE OF PREPARED SURFACES:

After the concrete has been prepared and cleaned, it shall be kept in a clean, dry condition until the repairs and coating has been completed. Any contamination, including oil, solvent, dirt accumulation or foreign material shall be removed by additional wet sandblasting and air-water jet cleanup followed by drying as required by the repair method and material.

Once removals and preparation of the reservoir interior is completed, the Contractor, in the presence of the City representative, shall thoroughly inspect the interior of the concrete water tank for cracks equal to 1/16" wide and wider. Said cracks shall be routed out per the detail shown on the plans and repaired per the detail shown on the plans, or as otherwise determined and directed by the Engineer.

C. DESIGNS:

Concrete mixture proportions, compressive strengths, and other design requirements shall be as specified in these specifications. Designs by the Contractor, or his supplier, shall be subject to the review and approval of the Engineer. Minimum review times shall be as noted in subsection 3 Submittals below. Concrete shall be proportioned to achieve a minimum of 4,000 psi @ 28 days with 5% (+/- 1%) in-situ air content with a maximum 3" slump. Coarse aggregate shall be 1/2" minus and meet the gradations of ASTM C-33. Any change in the mix proportions or materials shall require re-submittal, review and approval by the Engineer prior to use.

The concrete shall be pre-packaged concrete with proportions established at a packaging facility and mixed on site. Prepackaged concrete material shall meet the requirements of Five Star Structural Concrete as manufactured by Five Star Products, Inc., Fairfield, Connecticut; or approved equal. The Material shall be modified at the job site with the addition of coarse aggregate in the proportions as recommended by the manufacturer.

D. REPAIR PROCEDURES:

The epoxy resin bonding system shall also include, as part of its submittal, certification of the system with these specifications, the quantity represented, the

batch numbers of the resin and curing agent and the manufacturer's results of tests performed on the particular combination of resin and curing agent.

Application of epoxy-bonded concrete to an existing concrete surface shall meet all of the following criteria:

Preparation of epoxy resin – The epoxy resin is a two-component material which requires combination of components and mixing prior to use. Once mixed the material has pot life and must be used immediately. The bonding system shall be prepared by adding the curing component to the resin component in the proportions recommended by the manufacturer, followed by thorough mixing. Since the working life of the mixture depends on the temperature (longer at lower temperature, much shorter at higher temperature), the quantity to be mixed shall be applied and topped within approximately thirty (30) minutes. The addition of thinners or diluents to the resin mixture will not be permitted. Varying the manufacturer's recommended ratio of resin to hardener to achieve longer or shorter working time will also not be permitted. Both components of Class C epoxy shall be at 60° F prior to use. In addition, epoxy bonded concrete shall not be applied to concrete surfaces at a surface temperature less than 60° F nor greater than 90° F.

Application of epoxy resin bond coat – Immediately after the epoxy bond resin coat is mixed, it shall be applied to the prepared, dry existing concrete at coverage of not more than 80 square feet (80 sq-ft) per gallon, depending on surface conditions. The coverage per gallon depends on the roughness of the surface to be covered and may be considerably less than the maximum specified. The epoxy resin may be applied by any convenient, safe method such as squeegees, brushes or rollers which will yield an effective uniform coverage

Care shall be exercised to confine the epoxy resin to the area being bonded and to avoid contamination of adjacent surfaces. However, the epoxy bond coat shall extend the full height of the saw cut surfaces and slightly beyond the edges of the repair area.

The applied epoxy resin shall be in a fluid condition at the time concrete is placed, provided that the epoxy resin may be allowed to stiffen to a very tacky condition rather than a fluid condition before concrete is placed on steeply sloping or vertical surfaces, in which case special care shall be taken to thoroughly compact the concrete against the stiffening bond coat. In the event that an applied epoxy surface cures beyond either the fluid condition, or the very tacky condition where permitted, before the concrete is placed, a second bond coat shall be applied while the first bond coat is still tacky. If any bond coat has cured beyond the tacky state, it shall be completely removed by sand or hydro blasting, and proper cleanup, heating and drying shall be accomplished and a new bond coat applied.

E. PLACING AND FINISHING:

Immediately after application of the epoxy bond coat, while the epoxy is still fluid, concrete shall be spread evenly to a level slightly above grade and compacted thoroughly by vibrating, tamping or both. Vibrators shall not be permitted to penetrate through the fresh concrete to the level of the epoxy bond coat. Such vibration can emulsify the epoxy and reduce the bond tensile strength. Tampers shall be sufficiently heavy for thorough compaction. After being compacted and screeded, the concrete shall be given a wood float or steel trowel finish, as directed. Water spraying or other dispersal methods of placing water on the fresh concrete surface to ease finishing and resulting in a high w/c paste shall not be permitted. Troweling, if required, shall result in a smooth dense finish that is free from defects and blemishes. As the concrete continues to harden the surface shall be given successive trowelings. The final troweling shall be performed after the surface has hardened to such an extent that no cement paste will adhere to the edge of the trowel. The number of trowelings and the time at which trowelings are performed shall be subject to the approval of the Engineer.

The surfaces of epoxy-bonded concrete repairs shall be finished to the plane of the surfaces of adjoining the repair areas. The final finished surfaces shall match the texture of the surfaces adjoining the repair areas.

Curing and protection – The contractor shall cure and protect all concrete crack repairs from damage until acceptance by the City. Concrete shall be protected against freezing for not less than fourteen (14) days from the time of placement.

As soon as the epoxy-bonded concrete has hardened sufficiently to prevent damage, the surface shall be moistened by spraying lightly with water and then covering with sheet polyethylene, or by applying an approved curing compound, provided that the curing compound shall be used for curing concrete whenever there is a possibility that freezing temperatures will prevail during the curing period.

F. PAYMENT

Until the reservoir is drained and inspected, and the cracks identified, the quantity of needed crack repairs is unknown. It is anticipated that a minimum of 1,000 linear feet of cracks will require repairs. To encumber funds should the quantity of needed crack repairs exceed initial expectations, the bid schedule is broken down as follows:

Pay Item 502.1a Crack Repair – \leq 1,000 LF

Pay Item 502.1b Crack Repair – 1,001 LF to 2,000 LF

Pay Item 502.1c Crack Repair – 2,001 LF to 3,000 LF

Pay Item 502.1d Crack Repair – Greater Than 3,000 LF

Should the final verified quantity be 1,000 linear feet or less, payment shall be at the bid amount for **Pay Item 502.1a Crack Repair – Less than or equal to (≤) 1,000 LF** for the actual field measured and verified quantity.

Should the final verified quantity of crack repairs be greater than 1,000 linear feet, but less than 2,000 linear feet, that portion shall be paid at the bid amount for **Pay Item 502.1b Crack Repair – 1,001 LF to 2,000 LF** for the actual field measured and verified quantity.

Should the final verified quantity of crack repairs be greater than 2,000 linear feet, but less than 3,000 linear feet, that portion shall be paid at the bid amount for **Pay Item 502.1c Crack Repair – 2,001 LF to 3,000 LF** for the actual field measured and verified quantity.

Should the final verified quantity of crack repairs be 3,000 linear feet or greater, that portion of 3,000 linear feet or greater shall be paid at the bid amount for **Pay Item 502.1d Crack Repair – Greater Than 3,000 LF** for the actual field measured and verified quantity.

Pay Items 502.1a through 502.1d shall be considered provisional bid items and will only be paid as described above. Payment shall be considered full compensation for providing all labor, materials, equipment, and incidentals and performing all work associated with Crack Repairs to produce a finished product and shall be based on verified field measurements.

CONCRETE REPAIRS

A. GENERAL:

Once removals and preparation of the reservoir interior is completed, the Contractor shall thoroughly inspect the interior of the concrete water tank for defective sections of concrete.

All damaged, deteriorated, loosened or unbonded portions of existing concrete shall be first removed by high pressure water blasting, bush hammering of inaccessible areas or sawcut corners, or any other approved method with approved equipment, after which the surfaces of existing concrete shall be prepared by contained shot blasting, wet sand blasting or water blasting to remove any micro-fractured surfaces resulting from the initial removal process. The surfaces shall then be cleaned and allowed to dry thoroughly, unless the specific repair technique requires application of materials to a saturated surface dry (SSD) substrate. Concrete removal process

involving the use of jackhammers in excess of thirty pounds (30#), dry sandblasting or scrabblers shall not be used without the specific written approval of the Engineer. The use of acids for cleaning or preparing concrete surfaces for repair will not be permitted. Such removal, unless specifically identified in the Bid Schedule, shall be considered incidental to the surface preparation.

B. SAW CUT EDGES:

The perimeters of concrete that involve concrete removal and subsequent material replacement shall be saw cut either angled or perpendicular to the repair surface, as identified on the plan details, to a minimum depth of one inch (1"). Intersecting corners shall not be cross-cut but shall be held back and the remaining material removed by other means as shown on the plan details. Feather edge repairs to concrete shall not be used. Saw cutting shall not cut through or into existing rebar.

C. REINFORCING STEEL:

All loose scale, rust, corrosion by-products, concrete, dirt or other deleterious material shall be removed from all new or existing reinforcing steel. Existing reinforcing steel exposed for more than one-third (1/3) of its perimeter circumference shall be completely exposed to provide a minimum one inch (1") clearance between the steel and the concrete. Damaged or deteriorated reinforcing steel shall be removed and replaced to obtain standard lap lengths as directed by the Engineer.

D. REPAIR METHODS:

Concrete Repair shall consist of an epoxy-bonded Portland cement concrete of two inch (2") minimum to four inch (4") maximum thickness. Freshly mixed concrete shall be placed over a fluid epoxy resin bond coat on hardened existing concrete. Application, preparation, placing and curing shall be the same for all repairs.

The epoxy resin bonding system shall also include, as part of its submittal, certification of the system with these specifications, the quantity represented, the batch numbers of the resin and curing agent and the manufacturer's results of tests performed on the particular combination of resin and curing agent.

Application of epoxy-bonded concrete to an existing concrete surface shall meet all of the following criteria, sections c through g.

Preparation of epoxy resin – The epoxy resin is a two-component material which requires combination of components and mixing prior to use. Once mixed the material has pot life and must be used immediately. The bonding system shall be prepared by adding the curing component to the resin component in the proportions recommended by the manufacturer, followed by thorough mixing. Since the working

life of the mixture depends on the temperature (longer at lower temperature, much shorter at higher temperature), the quantity to be mixed shall be applied and topped within approximately thirty (30) minutes. The addition of thinners or diluents to the resin mixture will not be permitted. Varying the manufacturer's recommended ratio of resin to hardener to achieve longer or shorter working time will also not be permitted. Both components of Class C epoxy shall be at 60° F prior to use. In addition, epoxy bonded concrete shall not be applied to concrete surfaces at a surface temperature less than 60° F nor greater than 90° F.

Application of epoxy resin bond coat – Immediately after the epoxy bond resin coat is mixed, it shall be applied to the prepared, dry existing concrete at a coverage of not more than 80 square feet (80 sq-ft) per gallon, depending on surface conditions. The coverage per gallon depends on the roughness of the surface to be covered and may be considerably less than the maximum specified. The epoxy resin may be applied by any convenient, safe method such as squeegees, brushes or rollers which will yield an effective uniform coverage.

Care shall be exercised to confine the epoxy resin to the area being bonded and to avoid contamination of adjacent surfaces. However, the epoxy bond coat shall extend the full height of the saw cut surfaces and slightly beyond the edges of the repair area.

Steel to be embedded in epoxy bonded concrete shall be coated with epoxy resin. The steel shall be prepared in accordance with the requirements of Section C.3 and in the same manner required for preparation for the concrete being repaired. The exposed steel shall be completely coated with epoxy resin at the time it is being applied to the concrete surfaces of the repair area.

The applied epoxy resin shall be in a fluid condition at the time concrete is placed, provided that the epoxy resin may be allowed to stiffen to a very tacky condition rather than a fluid condition before concrete is placed on steeply sloping or vertical surfaces, in which case special care shall be taken to thoroughly compact the concrete against the stiffening bond coat. In the event that an applied epoxy surface cures beyond either the fluid condition, or the very tacky condition where permitted, before the concrete is placed, a second bond coat shall be applied while the first bond coat is still tacky. If any bond coat has cured beyond the tacky state, it shall be completely removed by sand or hydro blasting, and proper cleanup, heating and drying shall be accomplished and a new bond coat applied.

Placing and finishing – Use of epoxy-bonded concrete in repairs requiring forming, such as on steeply sloped or vertical surfaces, will be permitted only when the forming required is such that the bond coat can be applied and the concrete properly placed within the time period necessary to ensure that the time period necessary to ensure that the applied bond coat will still be fluid, or tacky where permitted.

Immediately after application of the epoxy bond coat, while the epoxy is still fluid, concrete shall be spread evenly to a level slightly above grade and compacted thoroughly by vibrating, tamping or both. Vibrators shall not be permitted to penetrate through the fresh concrete to the level of the epoxy bond coat. Such vibration can emulsify the epoxy and reduce the bond tensile strength. Tampers shall be sufficiently heavy for thorough compaction. After being compacted and screeded, the concrete shall be given a wood float or steel trowel finish, as directed. Water spraying or other dispersal methods of placing water on the fresh concrete surface to ease finishing and resulting in a high w/c paste shall not be permitted. Troweling, if required, shall result in a smooth dense finish that is free from defects and blemishes. As the concrete continues to harden the surface shall be given successive trowelings. The final troweling shall be performed after the surface has hardened to such an extent that no cement paste will adhere to the edge of the trowel. The number of trowelings and the time at which trowelings are performed shall be subject to the approval of the Engineer.

The surfaces of epoxy-bonded concrete repairs shall be finished to the plane of the surfaces of adjoining the repair areas. The final finished surfaces shall match the texture of the surfaces adjoining the repair areas.

Curing and protection – The Contractor shall cure and protect all repairs from damage until acceptance by the City. Concrete shall be protected against freezing for not less than fourteen (14) days from the time of placement.

As soon as the epoxy-bonded concrete has hardened sufficiently to prevent damage, the surface shall be moistened by spraying lightly with water and then covering with sheet polyethylene, or by applying an approved curing compound, provided that the curing compound shall be used for curing concrete whenever there is a possibility that freezing temperatures will prevail during the curing period.

E. PAYMENT:

Until the reservoir is drained and inspected, and the limits of the needed concrete repairs identified, the quantity of needed concrete repairs is unknown. It is anticipated that a minimum of 100 square feet of concrete repairs will be needed. To encumber funds should the quantity of needed concrete repairs exceeds initial expectations, the bid schedule is broken down as follows:

Pay Item 502.2a Concrete Repair Type 1 – \leq 100 SF

Pay Item 502.2b Concrete Repair Type 1 – 101 SF to 200 SF

Pay Item 502.2c Concrete Repair Type 1 – 201 SF to 300 SF

Pay Item 502.2d Concrete Repair Type 1 – Greater Than 300 SF

Pay Item 502.2e Concrete Repair Type 2 – \leq 100 SF

Pay Item 502.2f Concrete Repair Type 2 – 101 SF to 200 SF

Pay Item 502.2g Concrete Repair Type 2 – 201 SF to 300 SF
Pay Item 502.2h Concrete Repair Type 2 – Greater Than 300 SF

Pay Item 502.2i Concrete Repair Type 3 – \leq 100 SF
Pay Item 502.2j Concrete Repair Type 3 – 101 SF to 200 SF
Pay Item 502.2k Concrete Repair Type 3 – 201 SF to 300 SF
Pay Item 502.2l Concrete Repair Type 3 – Greater Than 300 SF

Should the final verified quantity of concrete repairs be 100 square feet or less, payment shall be at the bid amount for **Pay Item 502.2a Concrete Repair – Less than or equal to (\leq) 100 SF** for the actual field measured and verified quantity.

Should the final verified quantity of concrete repairs be greater than 100 square feet, but less than 200 square feet, that portion shall be paid at the bid amount for **Pay Item 502.2b Concrete Repair – 101 SF to 200 SF** for the actual field measured and verified quantity.

Should the final verified quantity of concrete repairs be 200 square feet, but less than 300 square feet, that portion shall be paid at the bid amount for **Pay Item 502.2c Concrete Repair – 201 SF to 300 SF** for the actual field measured and verified quantity.

Should the final verified quantity of crack repairs be 300 square feet or greater, that portion of 300 square feet and greater shall be paid at the bid amount for **Pay Item 502.2d Concrete Repair – Greater Than 300 SF**

Pay Items 502.2a through 502.2d shall be considered provisional bid items and will only be paid as described above. Payment shall be considered full compensation for providing all labor, materials, equipment, and incidentals and performing all work associated with Concrete Repairs to produce a finished product and shall be based on verified field measurements.

These provisions also apply to Concrete Repair Type 2 and Concrete Repair Type 3.

INSIDE WALL CONSTRUCTION JOINT REPAIRS

A. GENERAL:

Work under this section shall consist of removing existing original joint materials in the interior wall vertical construction joints including removal of existing joint materials; cleaning and surface preparation of the concrete surfaces, installation of backer rod and elastomeric sealant on all construction joints per the details shown on the plans.

The existing construction joints sealant layers shall be removed and routed out to a depth of 1". Closed cell polyethylene backer rod shall be installed with elastomeric sealant per the details shown on the plans.

Backer Rod (sponge filler) shall be closed-cell neoprene or rubber conforming to ASTM D1752, Type I, or to the requirements of ASTM D1056, grade 2A1 through grade 2A4.

B. PAYMENT:

Payment shall be considered full compensation for providing all labor, materials, equipment, and incidentals and performing all work associated with Inside Wall Construction Joint Repairs to produce a finished product and shall be based on verified field measurements.

Pay Item 502.3 Inside Wall Construction Joint Repair (LF)

INSIDE WALL -FLOOR JOINT REPAIR

A. GENERAL:

Work under this section shall consist of removing existing original horizontal joint materials at the wall to floor joint including removal of previous repair attempts and also the ring footing to floor joint materials; cleaning and surface preparation of the concrete surfaces, installation of backer rod and elastomeric sealant on all joints.

The wall to floor joint consists of a ¾" x 8" neoprene pad with ¾" rubber filler on the interior and exterior of the joint and at least two layers of surface sealant applied to the joint. The sealant layers shall be removed and the rubber sealant beneath the wall routed out to a depth of 1". Closed cell polyethylene backer rod shall be installed with elastomeric sealant.

B. Payment shall be considered full compensation for providing all labor, materials, equipment, and incidentals and performing all work associated with Inside Wall - Floor Joint Repair to produce a finished product and shall be based on verified field measurements.

Pay Item 502.4 Inside Wall - Floor Joint Repair (LF)

INSIDE WALL -ROOF JOINT REPAIR

A. GENERAL:

Work under this section shall consist of removing existing original horizontal joint materials at the wall to roof joint; cleaning and surface preparation of the concrete surfaces, installation of backer rod and elastomeric sealant on all joints.

The wall to roof joint consists of a ¾" x 8" neoprene pad with ¾" rubber filler on the interior and exterior of the joint and at least two layers of surface sealant applied to the joint. The sealant layers shall be removed and the rubber sealant above the wall routed out to a depth of 1". Closed cell polyethylene backer rod shall be installed with elastomeric sealant.

- B. Payment shall be considered full compensation for providing all labor, materials, equipment, and incidentals and performing all work associated with Inside Wall - Roof Joint Repair to produce a finished product and shall be based on verified field measurements.

Pay Item 502.5 Inside Wall - Roof Joint Repair (LF)

INTERIOR COATING

A. GENERAL:

Once all concrete crack repairs, concrete repairs, joint repairs and all preparatory work is completed, all concrete surfaces of the interior of the reservoir from one foot (1') above the high water level down, shall be coated with a prime coat of Sherwin Williams Dura-Plate 235 PW, or approved equal. After proper cure cycle of the prime coat the interior shall be coated with one coat of Sherwin Williams SherFlex spray applied to a minimum thickness of 80 mils DFT.

Once all concrete crack repairs, concrete repairs, joint repairs and all preparatory work is completed, the City representative will make a determination if the columns and ceiling require coating. Should it be decided to coat the columns and ceiling, those concrete surfaces of the interior of the reservoir shall be coated with a prime coat of Sherwin Williams Dura-Plate 235 PW, or approved equal. After proper cure cycle of the prime coat the interior shall be coated with one coat of Sherwin Williams SherFlex spray applied in accordance with manufacturer's requirements to a minimum thickness of 80 mils DFT.

B. APPLICATION:

No coating, paint or sealer shall be applied; when the surrounding air temperature or the temperature of the surface to be coated or painted is outside of the published material manufacturers recommendations to wet or damp surfaces or in rain, snow, fog or mist; when the temperature is less than 5 deg F above the dew point; when it is expected the air temperature will drop below manufacturers recommendations, or

less than 5 deg F above the dew point within eight hours after application of coating or paint. Dew point shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychrometric Tables or equivalents.

If above conditions are prevalent, coatings, sealants or sealers application shall be delayed or postponed until conditions are favorable. The days coating or paint application shall be completed in time to permit the film sufficient drying time prior to damage by atmospheric conditions.

The Contractor shall conduct all operations so as to confine abrasive blasting debris and paint over-spray to within the bounds of the site. The Contractor shall take all precautions necessary to prevent adverse off-site consequences of painting operations, and shall submit at the Pre-Job Conference a procedure for over-spray prevention. Any complaints received by the Owner relating to any such potential off-site problems will be immediately delivered to the Contractor. The Contractor shall immediately halt Coating work and shall take whatever corrective action required to mitigate any such problems. All costs associated with protection of off-site properties and/or correction of damage to property as a result of painting operations shall be borne directly by the Contractor at no additional expenses to the Owner.

Owner approval of Contractor's over-spray prevention procedures and Project Inspectors presence on project site does not free Contractor from responsibility for over spray. Daily approval of procedures will be required prior to start of spray operations.

C. PREPARATION FOR COATING:

1. General. All surfaces to receive protective coatings shall be cleaned as specified herein prior to application of said coatings. The Contractor shall examine all surfaces to be coated, and shall correct all surface defects before application of any coating material. All marred or abraded spots on shop-primed and on factory-finished surfaces shall receive touch-up restoration prior to any coating application.
2. Protection of Surfaces Not to be Coated. Surfaces which are not to receive protective coatings shall be protected during surface preparation, cleaning, and coating operation.
3. All hardware, lighting fixtures, switch plates, machined surfaces, couplings, bearings, nameplates on machinery, and other surfaces not to be painted shall be removed, masked or otherwise protected. Drop cloths shall be provided to prevent coating materials from falling on or marring adjacent surfaces. The working parts of all mechanical and electrical equipment shall be protected from

damage during surface preparation and coating operations. Openings in motors shall be masked to prevent entry of coating or other materials.

4. Care shall be exercised not to damage adjacent work during blast cleaning operations. Spray painting shall be conducted under carefully controlled conditions. The Contractor shall be fully responsible for and shall promptly repair any and all damage to adjacent WORK or adjoining property occurring from blast cleaning or coating operations.
5. Protection of Painted Surfaces. Cleaning and coating shall be so programmed that dust and other contaminants from the cleaning process will not fall on wet, newly coated surfaces.
6. Recoating of Surfaces with Existing Coatings. Items of equipment or surfaces with existing coatings which are required to be coated with the materials specified in this section are listed in the coating system schedules.

D. SURFACE PREPARATION STANDARDS

- A. The following referenced surface preparation specifications of the Steel Structures Painting Council shall form a part of this specification:
 1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, dirt, soils, salts, contaminants by cleaning with solvent, vapor, alkali, emulsion, or steam.
 2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mill scale, and loose paint to the degree specified by hand tool chipping, scraping, sanding, and wire brushing.
 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mill scale, and loose paint to the degree specified by power tool chipping, descaling, sanding, wire brushing, and grinding.
 4. White Metal Blast Cleaning (SSPC-SP5): Removal of all visible rust, mill scale, paint, and foreign matter by blast cleaning with wheel or nozzle (dry or wet) using sand, grit, or shot.
 5. Commercial Blast Cleaning (SSPC-SP6): Blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.
 6. Brush-Off Blast Cleaning (SSPC-SP7): Blast cleaning of all except tightly adhering residues of mill scale, rust, and coatings, exposing numerous evenly distributed flecks of underlying metal.

7. Near-White Blast Cleaning (SSPC-SP10-63): Blast cleaning nearly to White Metal Cleanliness, until at least 95 percent of each element of surface area is free of all visible residues.

B. The Contractor shall note that the definition of Near White Metal Blast Cleaning, SSPC-SP10, is from the 1963 version of the SSPC standard, and requires that 95 percent of "each element" of surface area be free of all visible residues. The other surface preparation standards shall be the most recent versions published by the SSPC.

E. CURING OF COATINGS:

A. The Contractor shall provide curing conditions in accordance with the conditions recommended by the coating material manufacturer or by these specifications, whichever is the highest requirement, prior to placing the completed coating system into service.

B. In the case of enclosed areas, forced air ventilation, using heated air if necessary, may be required until the coatings have fully cured.

F. CLEANUP:

A. Upon completion of the work, remove all staging, scaffolding and containers from the site. Remove coating spots and oil or stain that is upon adjacent surfaces and clean the job site. Dispose of all waste materials in a manner which conforms to all local and regional environmental regulations. Repair and clean all damage to adjacent surfaces or facilities resulting from the work performed under the contract to restore the adjacent surfaces to their original condition.

PRELIMINARY CLEANING AND FLUSHING

A. Prior to both testing and disinfection, the South Reservoir shall be cleaned by thoroughly hosing down all surfaces with a high pressure hose and nozzle of sufficient size to deliver a minimum flow of 50 gpm.

G. DISINFECTION MATERIALS:

A. Disinfection materials shall conform to all requirements of ANSI/AWWA Standard C652-86.

H. DISINFECTION OF TANK AND APPURTENANT PIPELINES:

A. Disinfection of the South Tank shall meet the requirements of ADEQ Bulletin 8, Method One and AWWA C652, Method Two.

- B. A strong chlorine solution (200 mg/L available chlorine) shall be sprayed on all interior surfaces of the tank. The solution shall thoroughly coat all interior surfaces of the tank, including the inlet/outlet piping.
- C. Drain piping shall be coated so that it will have a minimum chlorine concentration of 10 mg/L when filled with water.
- D. The disinfected surfaces shall remain in contact with the strong chlorine solution for at least 30 min, after which potable water shall be admitted, the drain piping purged of the 10 mg/L chlorinated water, and the storage facility then filled to its overflow level.
- E. Following this procedure and subject to flushing satisfactory bacteriological testing and acceptable aesthetic quality, the water may be delivered to the distribution system.
- F. Water for testing and disinfection shall be furnished by the Contractor. The Contractor shall make all necessary provisions for conveying the water from the source to the points of use.
- G. The South Tank and its appurtenant pressure piping shall be tested and disinfected. Disinfection shall be accomplished by chlorination. Chlorine dosages shall be as required by ADEQ Bulletin 8 and AWWA C652, latest edition. All chlorinating operations shall be performed in the presence of the City representative.
- H. Testing and disinfecting operations shall be combined for the reservoir structure.
- I. Disinfection operations shall be scheduled by the Contractor as late as possible during the contract time period so as to assure the maximum degree of sterility of the facilities at the time the work is accepted by the City. Bacteriological testing shall be performed by a certified testing laboratory
 - 1. Cleanliness of compressed air supply shall be verified daily, and as deemed necessary by Engineer, by directing a stream of air, without abrasive, from the blast nozzle onto a white blotter or cloth for twenty seconds. If oil or water appears on the blotter or cloth, all traps and separators shall be blown down until subsequent twenty-second tests show no further oil or water.
- J. Application of the first coat shall follow immediately after surface preparation and cleaning within an eight hour working day. Any cleaned areas not receiving first coat within an eight hour period shall be re-blasted prior to application of first coat.

1. If dehumidification equipment is used, cleaned areas may have first coat applied at last shift of the week, provided dehumidification equipment has run continually during the complete week, and surface meets all requirements of the specification.
- K. Because of the presence of moisture and possible contaminants in the atmosphere, care shall be taken to ensure previously coated or painted surfaces are protected or re-cleaned prior to application of subsequent coat(s). Methods of protection and re-cleaning shall be approved by the Engineer.
 1. Project is subject to intermittent shutdown if, in the opinion of the Engineer, cleaning, coating and painting operations are creating a localized condition detrimental to ongoing activities, personnel or adjacent property.
 2. In the event of emergency shutdown by the Engineer/Inspector, Contractor shall immediately correct deficiencies. All additional costs created by shutdown shall be borne by Contractor.
- L. The Contractor shall provide, at his own expense, all necessary power for his operations under the contract.

I. PAYMENT:

Payment for the Interior Coating shall be based on unit bid price per square foot of surface primed and coated. Payment shall include all preparatory work, prime coat, and finish coat and all other labor, materials, tools, equipment, or incidentals necessary to provide a finished product as specified. Payment shall include all final clean up and disinfection.

To encumber funds, should it be determined that the columns and ceiling require coating, the bid schedule is broken down as follows:

Pay Item 502.6a Interior Coating – Walls and Floor (SF)

Pay Item 502.6b Interior Coating – Columns and Ceiling (SF)

It shall be understood that Pay Item 502.6b is a provisional item and will only be paid if it is decided by the City to have the columns and ceiling coated.

CITY OF PRESCOTT, ARIZONA

South
**RESERVOIR AND
TRANSMISSION MAIN**

MAYOR
ROBERT MORGAN

CITY COUNCIL

BOB WIDEN
NANCY HOLADAY
JEROME HARRINGTON
JOE GALLO
BILL TURNER
JERRY HOLLAND



UTILITY INFORMATION

<u>COMPANY</u>	<u>CONTACT</u>	<u>TEL. NO.</u>
ARIZONA PUBLIC SERVICE CO. P.O. BOX 391, PRESCOTT, ARIZONA 86301	MIKE TROUP	(602) 776-3656
U.S. WEST TELEPHONE COMPANY	BOB DeHAVEN	(602) 776-25
CITY OF PRESCOTT SEWER & WATER P.O. BOX 2059, PRESCOTT, ARIZONA 86302	GLENN ELLIS	(602) 445-3500 EXTENSION 201
SOUTHERN UNION GAS CO. 501 N. 6TH STREET, P.O. BOX 1831 PRESCOTT, ARIZONA 86301	STEVE REESER	(602) 445-2210
PARAGON CABLE - T.V. 225 GROVE AVENUE, PRESCOTT ARIZONA		(602) 445-4511
BLUE STAKE		1-800-782-5348

APPROVED

[Signature]
CITY MANAGER DATE 2-22-90

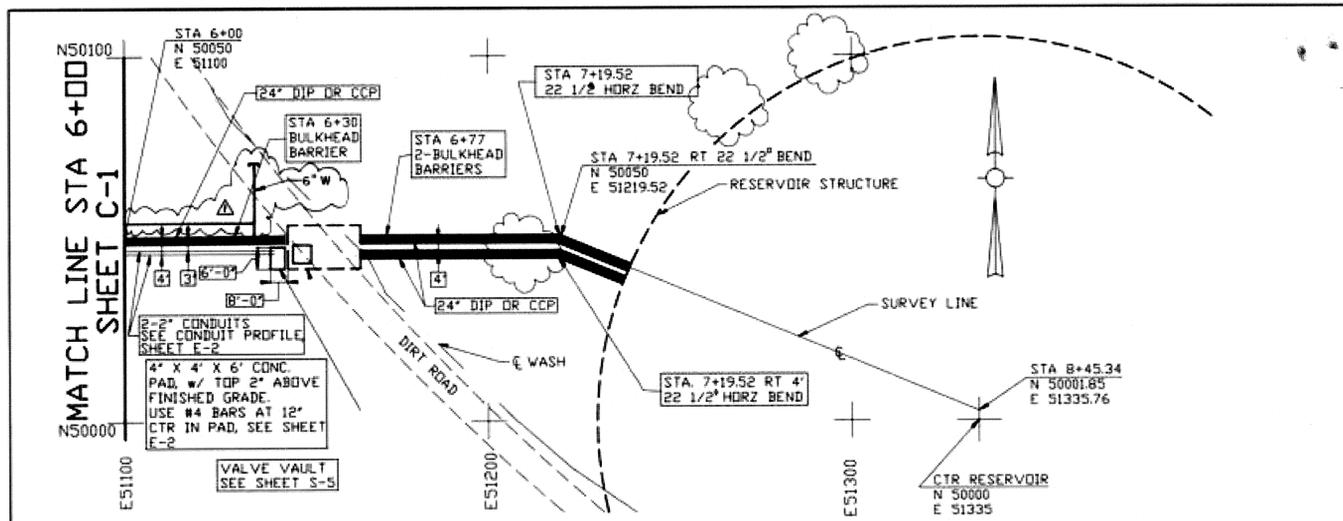
[Signature]
CITY ENGINEER DATE 2-22-90

Camp Dresser and McKee Inc. - Consulting Engineers

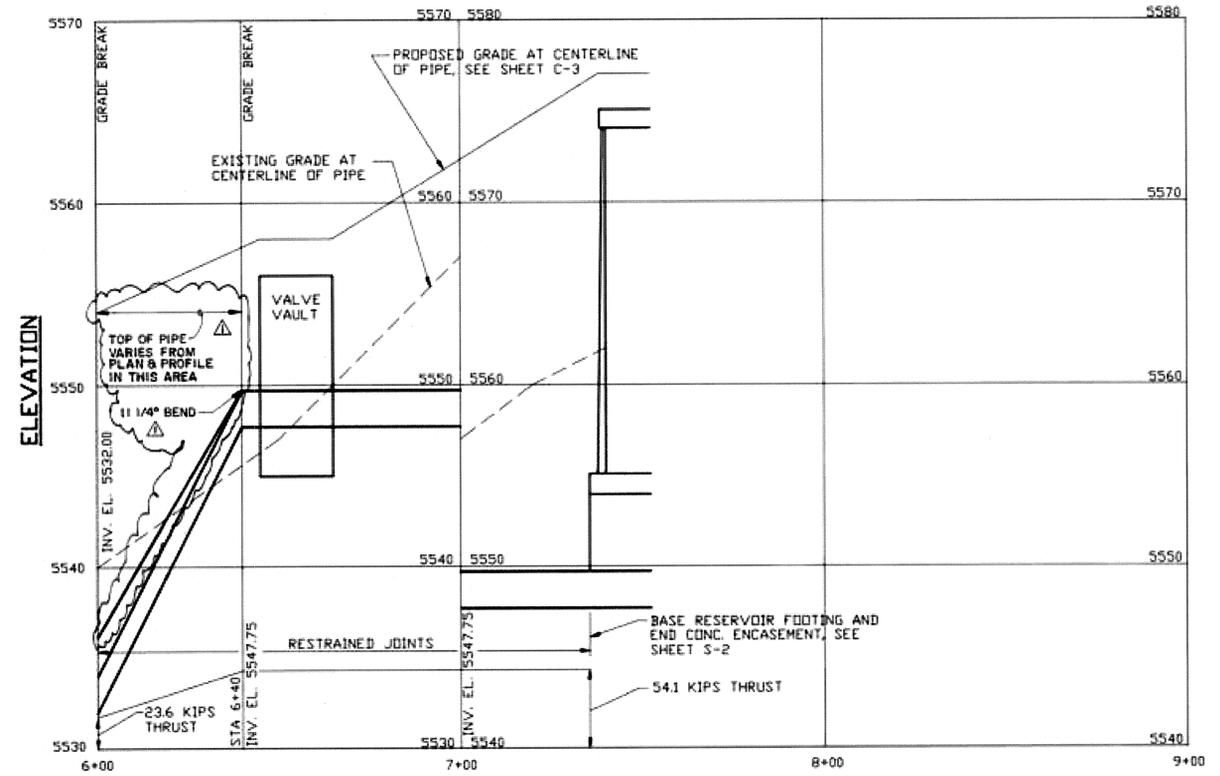


As Built
1992

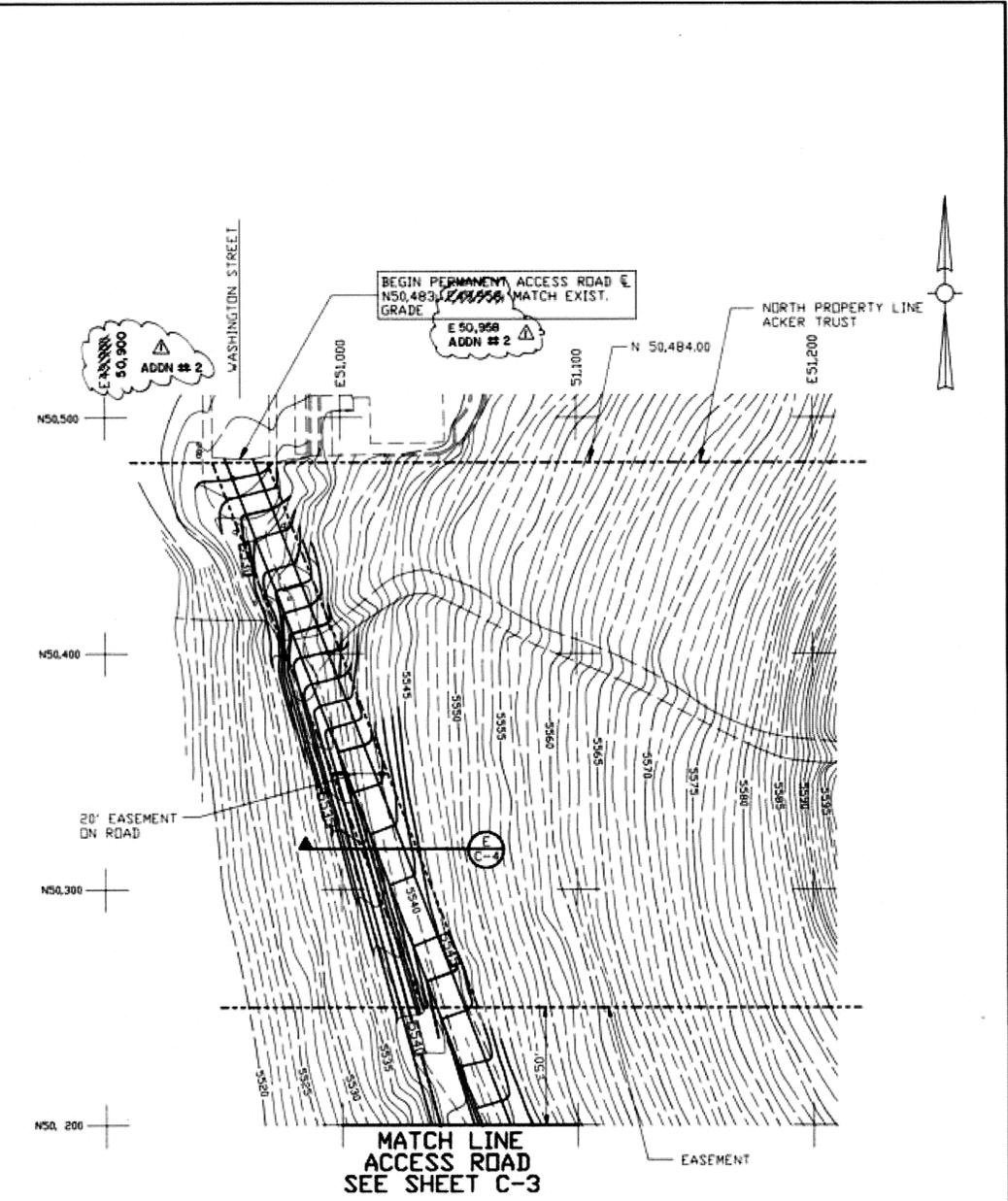
D-11-668D



PLAN
1" = 20'-0"



PROFILE
1" = 20'-0" HORIZ.
1" = 4'-0" VERT.



PERMANENT ACCESS ROAD
1" = 30'-0"



DESIGNED BY: L.J.J.	FILE: _____
DRAWN BY: KLP	DATE: 6/20/00
CHECKED BY: CWB	SCALE: AS NOTED
APPROVED BY: KAT	

CITY OF PRESCOTT, ARIZONA

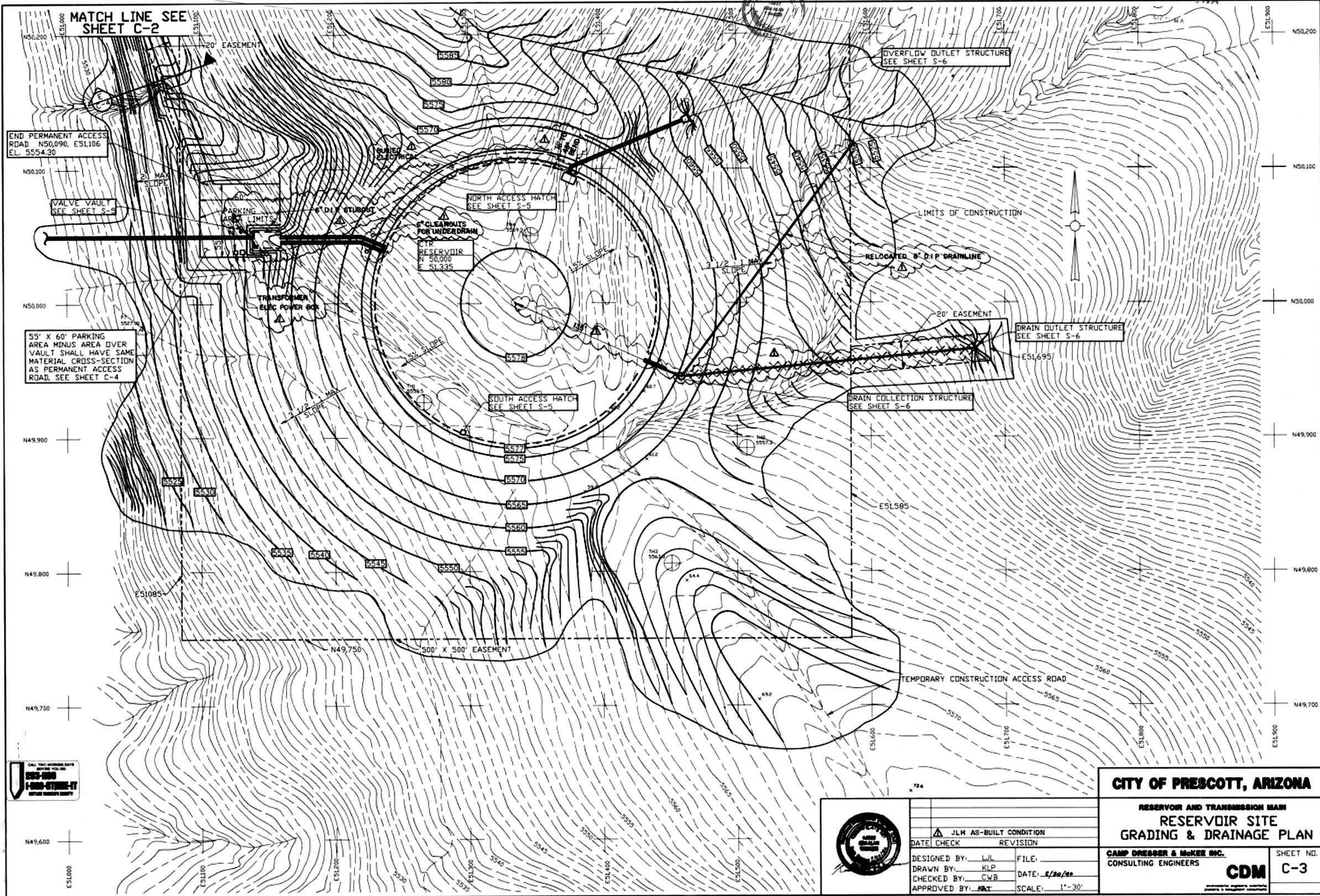
RESERVOIR AND TRANSMISSION MAIN
PLAN & PROFILE
 STA. 6+00 TO STA. 8+45.34
 AND PERMANENT ACCESS ROAD

CAMP DRESSER & MCKEE INC.
 CONSULTING ENGINEERS

CDM

SHEET NO. **C-2**

D-11-668B



MATCH LINE SEE SHEET C-2

END PERMANENT ACCESS ROAD N50,090, E51,106 EL. 5554.30

VALVE VAULT SEE SHEET S-5

55' X 60' PARKING AREA MINUS AREA OVER VAULT SHALL HAVE SAME MATERIAL CROSS-SECTION AS PERMANENT ACCESS ROAD, SEE SHEET C-4

TRANSFORMER ELEC POWER BOX

6" CLEANOUTS FOR UNDERDRAIN

CTR RESERVOIR N 50,000 E 51,335

NORTH ACCESS HATCH SEE SHEET S-5

SOUTH ACCESS HATCH SEE SHEET S-5

OVERFLOW OUTLET STRUCTURE SEE SHEET S-6

LIMITS OF CONSTRUCTION

RELOCATED 8" D.I.P. DRAINLINE

20' EASEMENT

DRAIN OUTLET STRUCTURE SEE SHEET S-6

DRAIN COLLECTION STRUCTURE SEE SHEET S-6

TEMPORARY CONSTRUCTION ACCESS ROAD



JLM AS-BUILT CONDITION	
DATE CHECK	REVISION
DESIGNED BY: LJM	FILE:
DRAWN BY: KLP	DATE: 8/30/00
CHECKED BY: CWB	SCALE: 1"=30'
APPROVED BY: KAT	

CITY OF PRESCOTT, ARIZONA

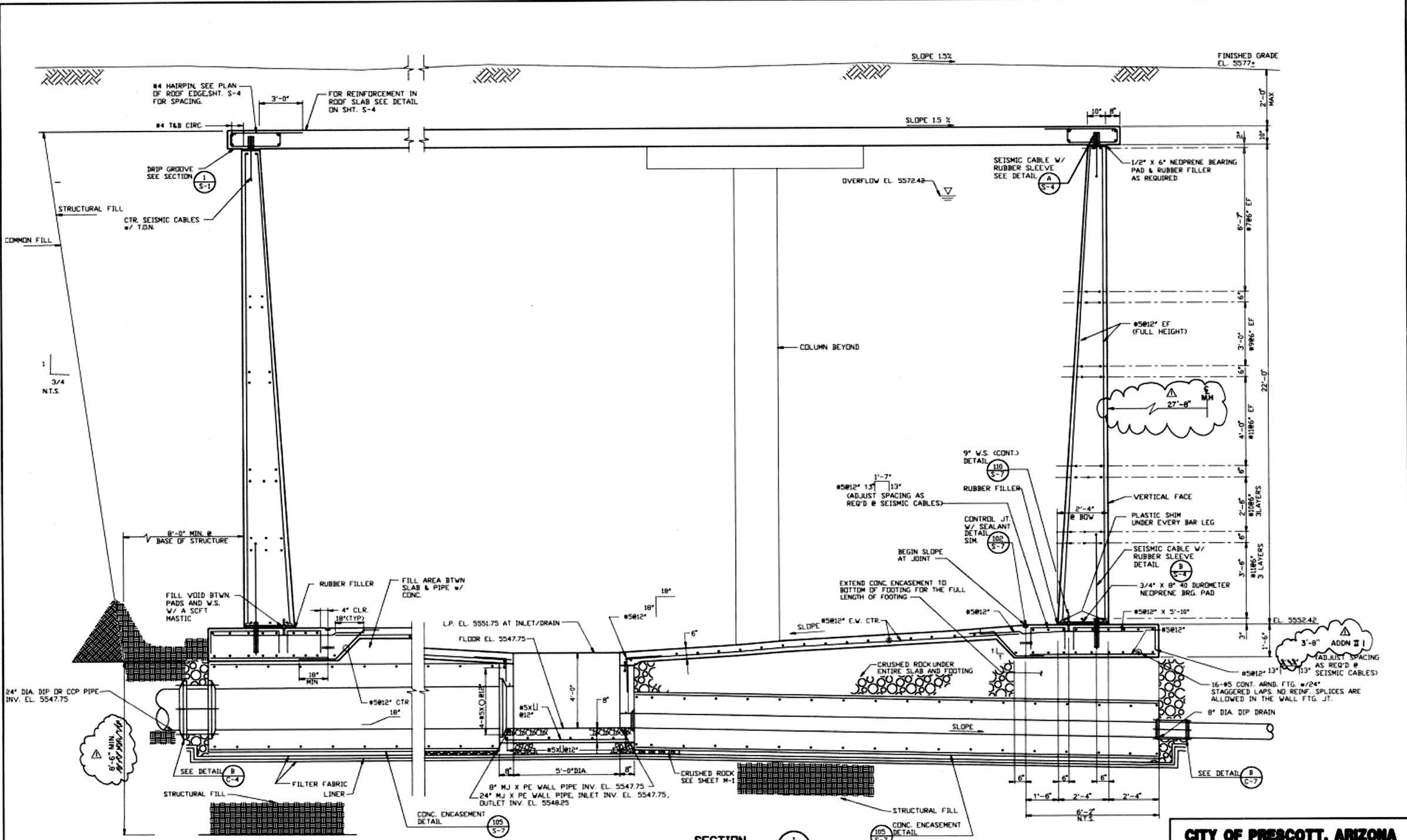
RESERVOIR AND TRANSMISSION MAIN
RESERVOIR SITE
GRADING & DRAINAGE PLAN

CAMP DRESSER & MCKEE INC.
CONSULTING ENGINEERS

CDM

SHEET NO. C-3

D-11-668B



CALL TWO WORKING DAYS BEFORE YOU OR
800-888-4444
4-800-878-8787
© 2000 CDM GROUP, INC.

NOTE:
 INLET/DRAIN AND OUTLET/DRAIN ARE THE
 SAME EXCEPT THE 24" OUTLET PIPE INV. EL.
 IS 6" ABOVE THE OUTLET/DRAIN FLOOR.

SECTION 1
 SCALE: 1/2" = 1'
 CONVENTIONAL WALL ALTERNATIVE



DATE CHECK		REVISION	
DESIGNED BY: JHC	FILE:		
DRAWN BY: KLP	DATE: 2/20/00		
CHECKED BY: CWB	SCALE:		
APPROVED BY: KAT			

CITY OF PRESCOTT, ARIZONA
RESERVOIR AND TRANSMISSION MAIN
RESERVOIR SECTION

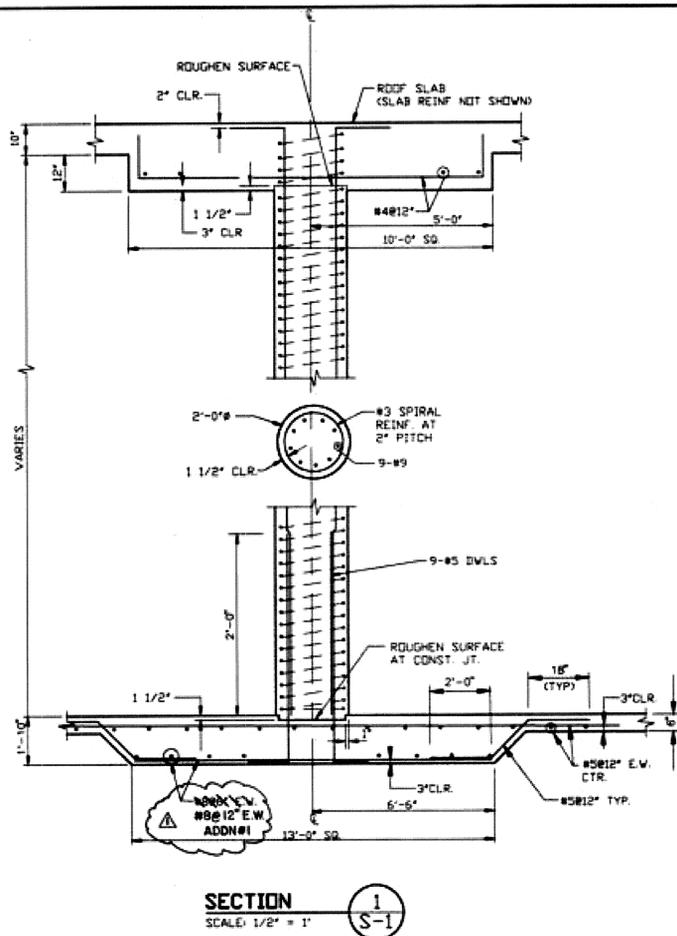
CAMP DRESDEN & BAKER INC.
 CONSULTING ENGINEERS

CDM

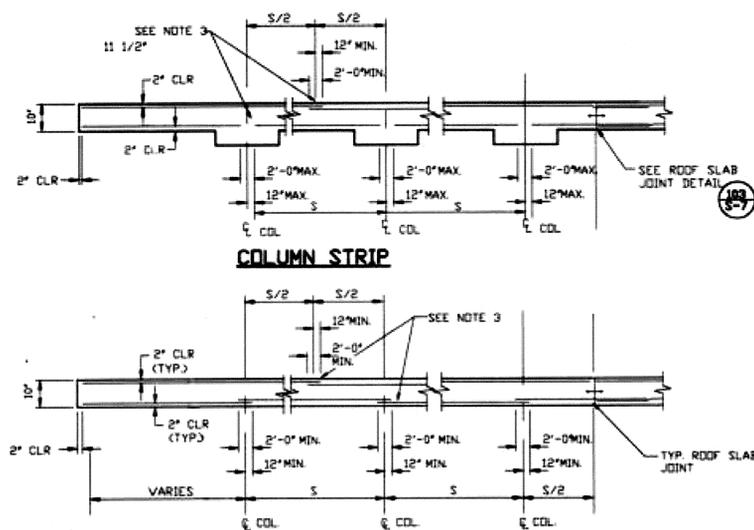
SHEET NO. **S-2**

AR1992-010

D-11-668B



SECTION 1 S-1
SCALE: 1/2" = 1'



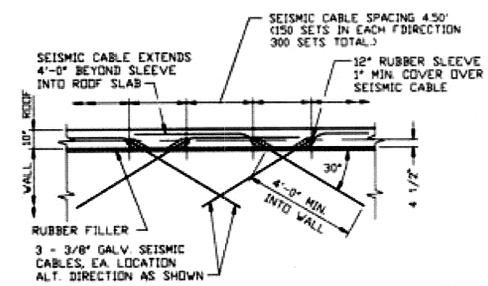
COLUMN STRIP
MIDDLE STRIP
ROOF SLAB REINFORCING DETAIL

- NOTES:
- ROOF POURED IN QUADRANTS; REINFORCING SHOWN IN ONE DIRECTION. PROVIDE SIMILAR REINFORCING AT RIGHT ANGLES TO SHOWN DIRECTION.
 - SPLICES SHALL BE ALLOWED ONLY AT LOCATIONS SHOWN IN THE SECTIONS ABOVE, AND SHALL BE MIN. CLASS C SPLICE LENGTH.
 - AT THE CONTRACTOR'S OPTION, REINFORCING FROM ONE BAY MAY BE EXTENDED INTO THE NEXT ADJACENT BAY (RATHER THAN SPLICED) PROVIDED THAT THE LARGER SIZE BAR IS EXTENDED.
 - THE LOWER LAYER OF REINFORCING IN THE BOTTOM MAT SHALL BE PLACED IN THE SAME DIRECTION AS THE UPPER LAYER OF REINFORCING IN THE TOP MAT. PROVIDE 2" OF CLEAR COVER FOR THE LOWER LAYER OF REINFORCING IN THE BOTTOM MAT AND THE UPPER LAYER OF REINFORCING IN THE TOP MAT.
 - SPACE QUANTITY OF BARS PROVIDED UNIFORMLY ACROSS WIDTH EXCEPT AS NOTED.

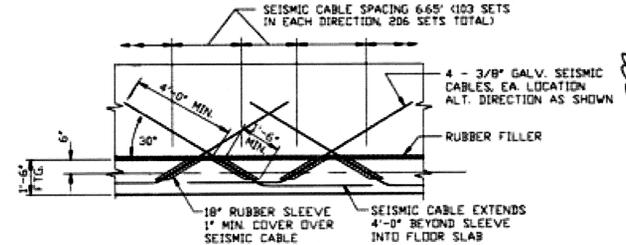
REINFORCING STEEL SCHEDULE

SEE ROOF PLAN FOR NOTATIONS ON WHERE STEEL IS USED ("MARKS").
SEE SLAB REINFORCING DETAILS AT LEFT FOR SPLICE LOCATIONS.
NOTE: NUMBER IN PARENTHESIS INDICATES ADDITIONAL TOP BARS TO BE PLACED WITHIN 7'-0" WIDE STRIP CENTERED OVER COLUMN.
(EXAMPLE: "13(2)" INDICATES 13 BARS IN STRIP PLUS 2 ADDITIONAL BARS INSIDE 7'-0" BAND OVER COLUMN)

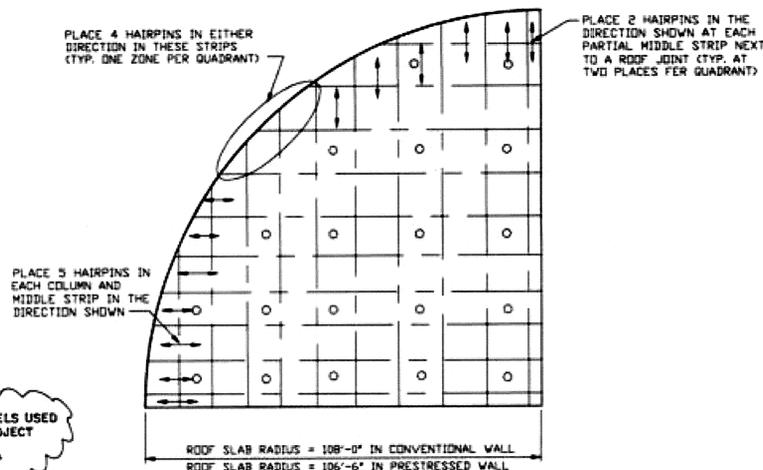
MARK	BAR SIZE	NO. OF BARS	MARK	BAR SIZE	NO. OF BARS
A	#7	13(2)	N	#6	19
B	#6	15(3)	O	#7	9
C	#7	17(3)	P	#8	13
D	#8	12(3)	Q	#9	16
E	#9	16(4)	R	#7	19
F	#5	22	S	#5	17
G	#5	19	T	#5	13
H	#6	18	U	#5	22
J	#7	16	X	#6	15
K	#8	15	Y	#5	15
L	#7	13	Z	#7	17
M	#6	13			



ROOF TO WALL CONNECTION DETAIL A S-2
NTS



WALL TO FLOOR CONNECTION DETAIL B S-2
NTS



PLAN OF ROOF EDGE HAIRPINS
NTS



	DATE CHECK	REVISION
	DESIGNED BY: JLM	FILE:
	DRAWN BY: KLP/KW	DATE: 2/20/00
	CHECKED BY: GLS	SCALE: AS NOTED
	APPROVED BY: MAT	

CITY OF PRESCOTT, ARIZONA

RESERVOIR AND TRANSMISSION MAIN
COLUMN & ROOF DETAILS

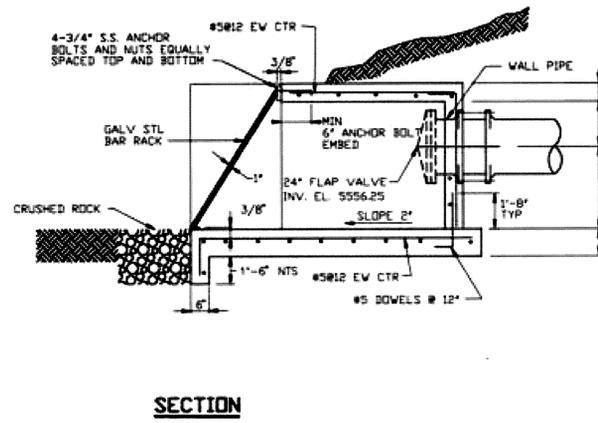
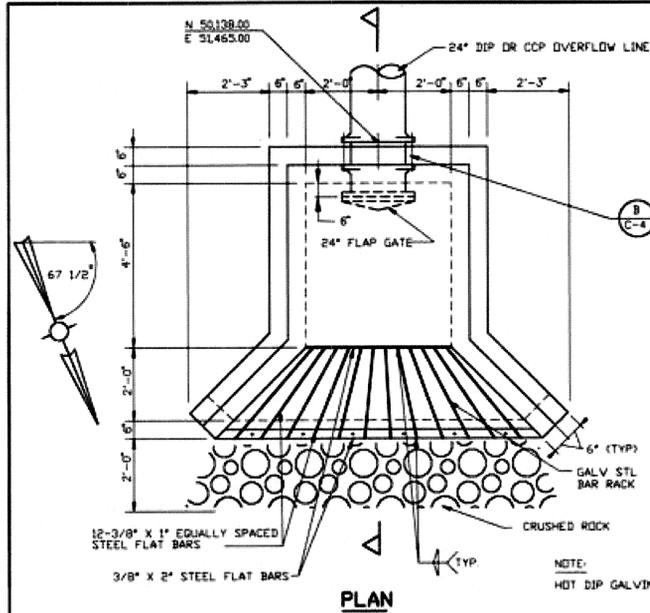
CAMP DREDDER & MACK INC.
CONSULTING ENGINEERS

SHEET NO. S-4

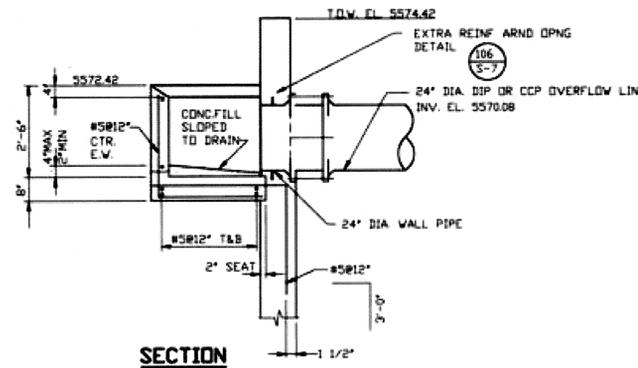
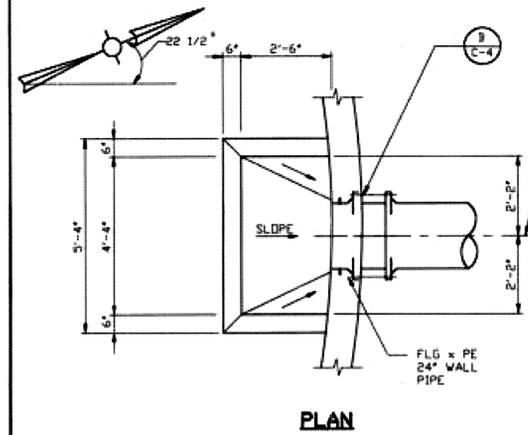
CDM

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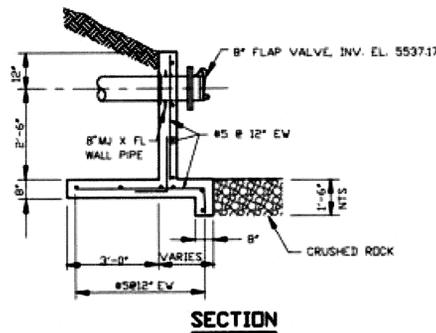
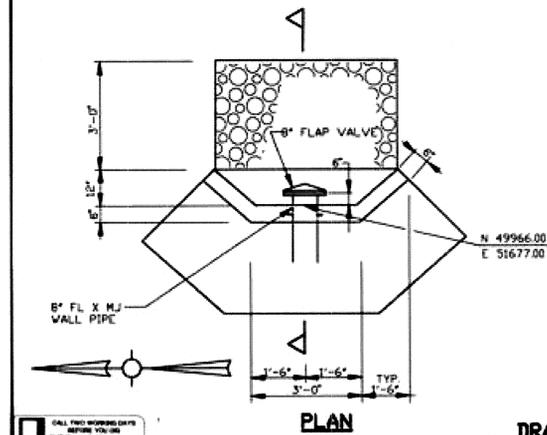
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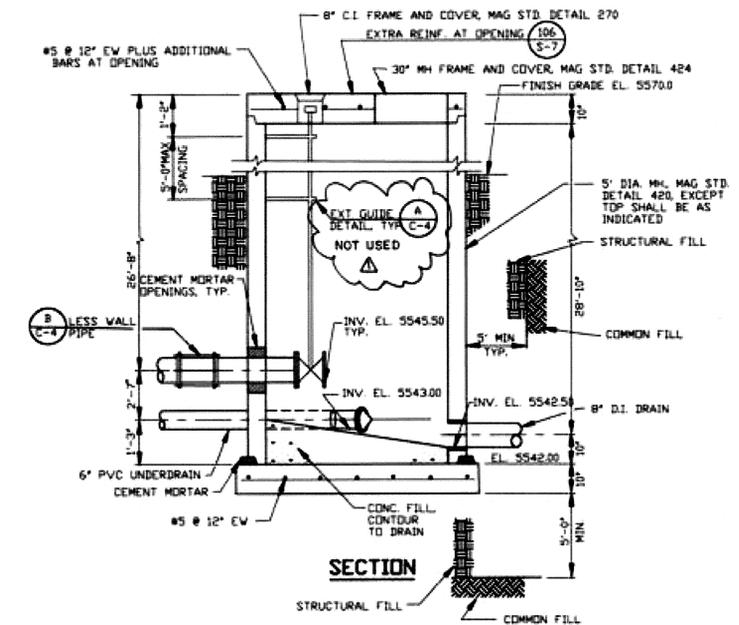
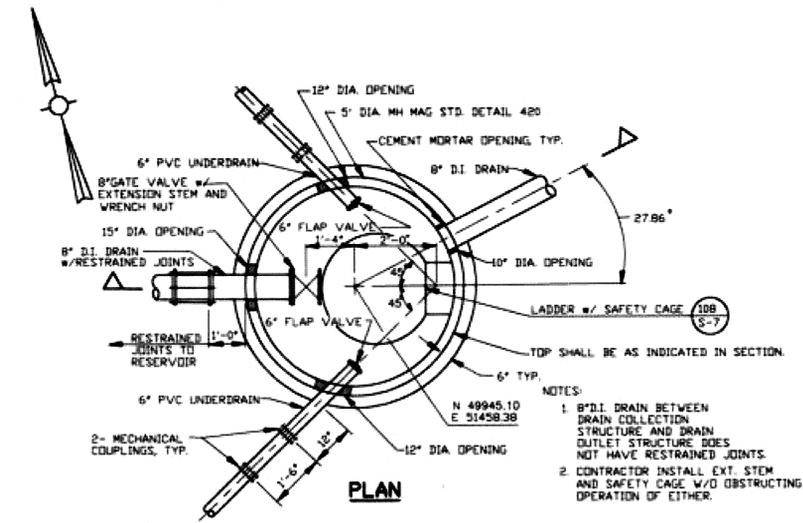
OVERFLOW OUTLET STRUCTURE
SCALE: 1/2" = 1'



OVERFLOW BOX
SCALE: 1/2" = 1'-0"



DRAIN OUTLET STRUCTURE
SCALE: 1/2" = 1'-0"



DRAIN COLLECTION STRUCTURE
SCALE: 1/2" = 1'-0"



DESIGNED BY: J.L.H.	FILE:
DRAWN BY: KLP/KW	DATE: 2/20/92
CHECKED BY: C.W.B.	SCALE: AS NOTED
APPROVED BY: W.A.T.	
DATE CHECK:	REVISION:

CITY OF PRESCOTT, ARIZONA

RESERVOIR AND TRANSMISSION MAIN

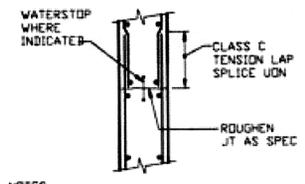
DRAIN COLLECTION STRUCTURE AND MISCELLANEOUS STRUCTURE DETAILS

CAMP DRESSER & MCKEE INC.
CONSULTING ENGINEERS

SHEET NO. S-6

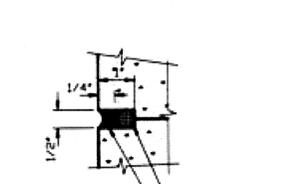
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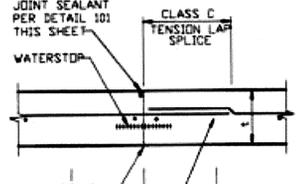
NOTES:
 1. PROVIDE TENSION LAP SPLICE LENGTH PER ACI 315 FOR OTHER THAN TOP BARS
 2. DETAIL SHOWN FOR WALLS; SLABS SIMILAR

CONSTRUCTION JOINT DETAIL 100



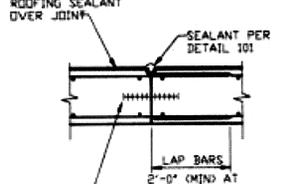
NOTE: ALSO TO BE USED FOR CONTROL JOINTS IN SLABS

JOINT SEALANT DETAIL 101



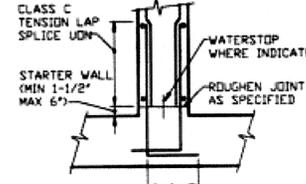
36 HOURS MIN SHALL PASS BTWN POURS TO PROVIDE COLD JT

SLAB CONTROL JOINT W/ WS DETAIL 102



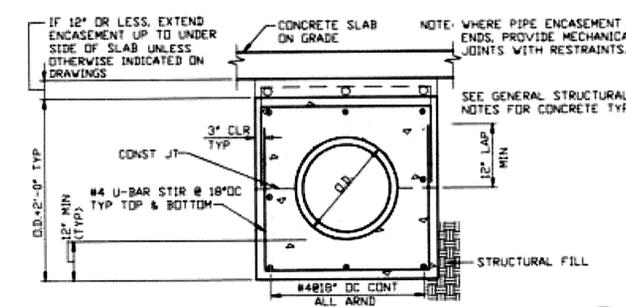
6" PVC WATERSTOP CONT (WELD AT CROSSINGS)

ROOF SLAB JOINT DETAIL 103

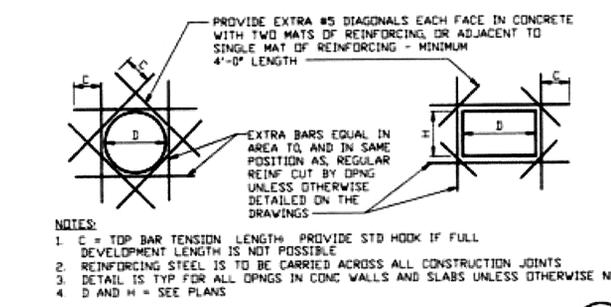


STARTER WALL (MIN 1-1/2" MAX 6")
 NOT LESS THAN STANDARD HOOK
 NOTE: AT CONTRACTOR'S OPTION, STARTER WALL CAN BE ELIMINATED WHERE THERE IS NO WATERSTOP

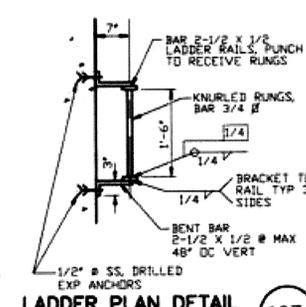
WALL CONSTRUCTION JOINT AT SLAB DETAIL 104



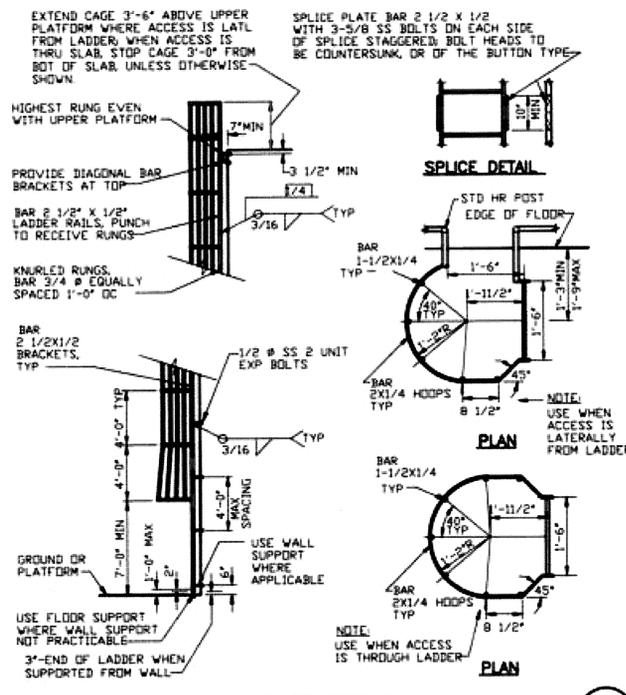
CONCRETE PIPE ENCASEMENT DETAIL 105



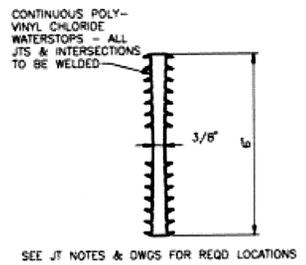
EXTRA REINFORCING AT OPENINGS DETAIL 106



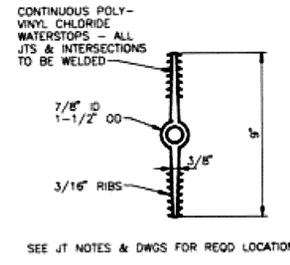
LADDER PLAN DETAIL 107



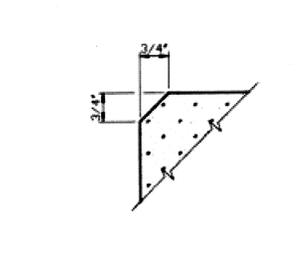
LADDER WITH SAFETY CAGE DETAIL 108



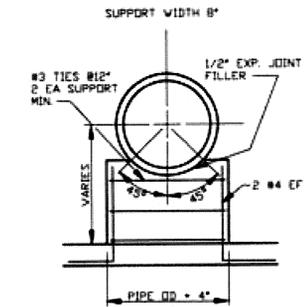
6\"/>



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CHAMFER DETAIL 111



CONCRETE PIPE SUPPORT 112

GENERAL NOTES
 ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE MECHANICAL, ELECTRICAL, AND OTHER, SHOP DRAWINGS AND SPECIFICATIONS PROVIDED.
 SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR REGLETS, PIPE SLEEVES, CONDUITS OR OTHER ITEMS TO BE EMBEDDED OR PASSED THROUGH THE CONCRETE.
 IN GENERAL, PIPES LESS THAN 12" IN DIAMETER ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS.
 WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED SIZES.
 CONCRETE BASES FOR EQUIPMENT SHALL BE OF SIZES REQUIRED BY EQUIPMENT MANUFACTURER. USE PERTINENT STANDARD DETAILS SHOWN, EVEN THOUGH THEY MAY NOT BE CALLED OUT AT ALL LOCATIONS WHERE THEY APPLY.

CAST-IN-PLACE CONCRETE NOTES
 REINFORCED CONCRETE SHALL CONFORM TO THE ACI SPECIFICATION 318-83.
 MINIMUM CONCRETE STRENGTH IN 28 DAYS:
 CONCRETE RESERVOIR WALL $f'_c = 4000$ PSI 5,000
 ALL OTHER STRUCTURAL CONCRETE $f'_c = 4000$ PSI 4,000
 CONCRETE FILL $f'_c = 2500$ PSI

REINFORCING STEEL SHALL BE BILLET STEEL CONFORMING TO THE LATEST EDITION OF ASTM SPECIFICATION A-615, GRADE 60.
 REINFORCING STEEL FABRICATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF CRSI MANUAL OF STANDARD PRACTICE.

REINFORCING SHALL HAVE THE FOLLOWING MINIMUM CLEAR CONCRETE COVER, UNLESS OTHERWISE NOTED:
 1. CONCRETE CAST AGAINST EARTH (w. BOTTOM OF SLABS, FOOTINGS, DRILLED PIERS, etc.) - 3 INCHES
 2. CONCRETE SURFACES EXPOSED TO SOIL, WATER, SEWERAGE, SLUDGE AND/OR WEATHER (INCLUDES BOTTOM COVER FOR SLABS OVER LIQUID-CONTAINING STRUCTURES) - 2 INCHES
 3. CONCRETE SURFACES NOT EXPOSED TO SOIL, WATER, SEWERAGE, SLUDGE AND/OR WEATHER - SLABS (TOP AND BOTTOM COVER), WALLS, JOISTS AND SHELLS - 1 INCH
 - BEAMS, COLUMNS (TIES, SPIRALS, STIRRUPS AND OTHER REINFORCEMENT) - 1-1/2 INCHES

SPLICED BARS SHALL HAVE A MINIMUM LAP AS SPECIFIED IN LATEST EDITION OF THE ACI 315 DETAILING MANUAL, UNLESS OTHERWISE NOTED. STAGGER LAPS IN CIRCUMFERENTIAL REINFORCEMENT PER SPECIFICATIONS AND DRAWINGS.
 CONSTRUCTION JOINTS SHALL NOT BE PLACED AT LOCATIONS OTHER THAN THOSE SHOWN ON THE DRAWINGS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
 ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE 3/4" MINIMUM CHAMFER, UNLESS OTHERWISE NOTED.

PRESTRESSED CONCRETE TANK WALL NOTES
 1. CORE WALL CONCRETE AND SHOTCRETE TO HAVE MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
 2. MINIMUM HORIZONTAL RESIDUAL STRESS IN CONCRETE CORE WALL SHALL BE 200 PSI SEE SPECIFICATIONS.
 3. THE MAXIMUM PERMISSIBLE PRESTRESSING STRESS SHALL NOT EXCEED 75% OF THE ULTIMATE STRENGTH OF STEEL WIRE OR STRAND.
 4. STRENGTH LOSS DUE TO ELASTIC SHORTENING, CREEP, RELAXATION, AND SHRINKAGE BUT EXCLUDING LOSSES DUE TO FRICTION AND ANCHORAGE SLIP SHALL BE 25,000 PSI.

JOINT NOTES
 UNLESS OTHERWISE NOTED, SEALANT SHALL BE PROVIDED IN JOINTS WHERE SHOWN ON THE DRAWINGS AND WHERE INDICATED BY THE FOLLOWING:
 1. CONST CONTROL JOINTS FOR WALL AND SLABS IN LIQUID CONTAINMENT STRUCTURES SHALL HAVE SEALANT APPLIED TO THE LIQUID & SOIL SIDES OF THE JOINT (EXCEPT FOR THE SOIL SIDE OF A JOINT FOR A BASE SLAB).
 2. EXPANSION JOINTS SHALL HAVE SEALANT APPLIED TO BOTH SIDES OF THE JOINT. (EXCEPT FOR THE SOIL SIDE OF A JOINT FOR A BASE SLAB).

UNLESS OTHERWISE NOTED, WATERSTOPS SHALL BE PROVIDED IN JOINTS WHERE SHOWN ON THE DRAWINGS AND WHERE INDICATED BY THE FOLLOWING:
 1. IN ALL JOINTS IN WALLS AND SLABS OF LIQUID CONTAINMENT STRUCTURES TO PREVENT INFILTRATION OF LIQUID INTO SOIL OR DRY AREAS OF THE STRUCTURE.
 2. IN ALL BELOW-GRADE JOINTS IN WALLS AND SLABS TO PREVENT INFILTRATION OF GROUNDWATER INTO STRUCTURE.

CITY OF PRESCOTT, ARIZONA
 RESERVOIR AND TRANSMISSION MAIN
 MISCELLANEOUS STRUCTURAL DETAILS
 SHEET NO. S-7
 CDM CONSULTING ENGINEERS
 ALB1992-010

DESIGNED BY: JMC
 DRAWN BY: ELP
 CHECKED BY: GLS
 APPROVED BY: KAT
 FILE:
 DATE: 2/20/90
 SCALE: NOT TO SCALE
 DATE CHECK: []
 REVISION: []
 JLH AS-BUILT CONDITION