

CHICKASHA MUNICIPAL AUTHORITY

AGENDA

LOCATION OF MEETING

CITY HALL COUNCIL CHAMBERS

117 NORTH FOURTH STREET

CHICKASHA, OKLAHOMA 73018

TIME OF MEETING

6:30 PM

DATE OF MEETING

SEPTEMBER 3, 2024

All items on this agenda, including but not limited to any agenda item concerning the adoption of any ordinance, resolution, contract, agreement, or any other item of business, are subject to amendment, including additions and/or deletions. This rule will apply to every individual agenda item without exception, and without providing this same amendment language with respect to each individual agenda item. Such amendments should be rationally related to the topic of the agenda item, or the governing body will be advised to continue the item.

The governing body may adopt, approve, ratify, deny, defer, recommend, amend, strike, or continue any agenda item. When more information is needed to act on an item, the governing body may refer the matter to its City/Trust Manager, staff, attorney or to the recommending board, commission or committee.

1. **Call to Order / Roll Call.**
2. **Consent Docket:**
 - a. Acceptance of the Minutes of the August 19, 2024, regular meeting.
 - b. Acceptance of the Claims List.
3. **Discussion/Approval of Items Removed from Consent Docket:**
4. **Consideration and Discussion Items:**
 - a. Discussion, consideration and possible action to declare an emergency pursuant to Title 61 Oklahoma Statutes Section 130 due to a pipe

bursting along Colorado Avenue from 4th Street to 5th Street and finding that the pipe bursting is a condition resulting from a sudden unexpected happening or unforeseen occurrence or condition whereby the public health or safety is endangered or further damage to state property is likely if the situation is not addressed promptly and awarding a bid CMA-2403 to LeeTech Services, LLC for a project consisting of replacing existing sanitary sewer main.

- b. Discussion, consideration, and possible action to authorize Staff to solicit bids for CMA-2401 - Water Main Construction - Ada Sipel Avenue at Union Pacific Railroad.

5. Motion for Adjournment.

CHICKASHA

Meeting Type: CMA Agenda 9-3-2024

Meeting Date: 9/3/2024

Department: City Clerk

Agenda Item No. 2.a.

AGENDA ITEM: Acceptance of the Minutes of the August 19, 2024, regular meeting.

I. BACKGROUND/DESCRIPTION:

II. RECOMMENDED ACTION:

Accept Minutes of the August 19, 2024, regular meeting.

III. FISCAL INFORMATION -

IV. FUND INFORMATION:

Dept. Director: Susan M. McDaniel, CMC	Fund	Account	Amount
	(To)		
	FUND	ACCOUNT	AMOUNT
Meeting Date: September 3, 2024	(From)		

V. ATTACHMENTS:

1. CMA Meeting Minutes 8-19-2024

CHICKASHA

August 19, 2024

Office of the City Clerk

The **REGULAR** meeting of the **CHICKASHA MUNICIPAL AUTHORITY** was held in the council chambers in city hall on the 19th day of August 2024 as specified by advance public notice with a properly prepared agenda stating the subject matter or matters to be discussed at said meeting. Chairman Grayson called the meeting to order at 9:25 p.m.

ITEM 1.

Call to Order / Roll Call:

CHAIRMAN AND TRUSTEES

PRESENT:

Zachary Grayson, Chairman
Georgianne Hebblethwaite, Vice Chairman
Kelly Boyd
Oscar Nelson
Kea Ginn
John P. Smith
Erica Alexander
Charlie Burruss
Brian Gerdes

ABSENT:

None.

STAFF

PRESENT:

Amanda Mullins, City Attorney
Rachel Bernish, Asst. City Manager
Susan M. McDaniel, City Clerk
Chief Music, Police Dept.
Darren Martin, Chief Building Inspector
Jim Crosby, Public Works Director
Elaine Jensen, Finance Director
Spencer Winzenried, Parks & Rec Director
Lillie Huckaby, Library Director
Shae Mortimer, Marketing and Civic Engagement Manager

ITEM 2.

Consent Docket: ITEM 2a – ITEM 2h.

ITEM 2a.

Acceptance of the Minutes of August 5, 2024, regular meeting.

ITEM 2b.

Acceptance of the Claims List.

ITEM 2c.

Accept and ratify the Accounting Services Contract with Crawford and Associates.

ITEM 2d.

Accept and ratify Pay Request No. 2 in the amount of \$188,030.38 – Water Distribution Improvements 18608 CDBG 22 to Marsau Enterprises, Inc.

City of Chickasha

117 North 4th Street, Chickasha, OK 73018 • (405) 222-6001 • Susan.McDaniel@chickasha.org

The City of Chickasha is an equal opportunity employer and provider. For TDD/TTY assistance, please dial 711.

- ITEM 2e.** Accept and ratify Pay Request No. 3 in the amount of \$260,172.18 – Water Distribution Improvements 18608 CDBG 22 to Marsau Enterprises, Inc.
- ITEM 2f.** Accept and ratify Change Order No. 3 – Final – or Marsau Enterprises, Inc. reducing the amount of \$28,788.00 for CMA-2302 – a/k/a CDBG 22 – Water Distribution Improvements and authorize the Mayor to execute the same.
- ITEM 2g.** Accept and ratify amended Pay Request No. 4 – Final – in the amount of \$101,163.99 - Water Distribution Improvements 18608 CDBG 22 to Marsau Enterprises, Inc.
- ITEM 2h.** Acceptance of the Financials for July 2024.

*Motion by Trustee Boyd, second by Trustee Alexander to approve Items 2a – 2h.

Roll call vote:

Ayes:” Boyd, Nelson, Ginn, Hebblethwaite, Smith, Alexander, Burruss, Gerdes, and Grayson.

“Nays:” None

“Abstain:” Ginn, Burruss

Motion carried. 9-0

ITEM 3. **Discussion / Approval of Items Removed from Consent Docket:**

No action taken on Item 3.

ITEM 4. **Motion to Adjourn.**

*Motion by Trustee Smith, second by Trustee Alexander to adjourn.

Meeting adjourned.

TIME: 9:26 PM

Approved this 3rd day of September 2024.

Zachary Grayson, Chairman

Susan M. McDaniel, CMC – City Clerk

(ATTEST)

CHICKASHA

Meeting Type: CMA Agenda 9-3-2024

Meeting Date: 9/3/2024

Department: Finance

Agenda Item No. 2.b.

AGENDA ITEM: Acceptance of the Claims List.

I. BACKGROUND/DESCRIPTION:

II. RECOMMENDED ACTION:

III. FISCAL INFORMATION -

IV. FUND INFORMATION:

Dept. Director:

Fund	Account	Amount
(To)		
FUND	ACCOUNT	AMOUNT
(From)		

Meeting Date:
September 3, 2024

V. ATTACHMENTS:

CHICKASHA

Meeting Type: CMA Agenda 9-3-2024

Meeting Date: 9/3/2024

Department: Public Works

Agenda Item No. 4.a.

AGENDA ITEM: Discussion, consideration and possible action to declare an emergency pursuant to Title 61 Oklahoma Statutes Section 130 due to a pipe bursting along Colorado Avenue from 4th Street to 5th Street and finding that the pipe bursting is a condition resulting from a sudden unexpected happening or unforeseen occurrence or condition whereby the public health or safety is endangered or further damage to state property is likely if the situation is not addressed promptly and awarding a bid CMA-2403 to LeeTech Services, LLC for a project consisting of replacing existing sanitary sewer main.

I. BACKGROUND/DESCRIPTION:

II. RECOMMENDED ACTION:

Declare an emergency pursuant to Title 61 Oklahoma Statutes Section 130 due to a pipe bursting along Colorado Avenue from 4th Street to 5th Street and finding that the pipe bursting is a condition resulting from a sudden unexpected happening or unforeseen occurrence or condition whereby the public health or safety is endangered or further damage to state property is likely if the situation is not addressed promptly and awarding a bid CMA-2403 to LeeTech Services, LLC for a project consisting of replacing existing sanitary sewer main.

III. FISCAL INFORMATION -

IV. FUND INFORMATION:

Dept. Director: Jim Crosby, Public Works Director	Fund	Account	Amount
	(To)		
	FUND	ACCOUNT	AMOUNT
Meeting Date: September 3, 2024	(From)		

V. ATTACHMENTS:

1. 20240830081701438
2. 20240830081718106
3. CMA-2403 Let of Awd Recommend w.tabs

CHICKASHA

SANITARY SEWER MAIN REPLACEMENT

RFP CMA-2403

CHICKASHA MUNICIPAL AUTHORITY

CHICKASHA, OKLAHOMA

SPECIFICATIONS & BIDDING DOCUMENTS

Contract Administered by:

**Jim Crosby
Public Works Director
117 N. 4th Street
Chickasha, OK 73018
(405) 222-6080
jim.crosby@chickasha.org**


Jim Crosby

8/8/14
Date

**Request for Proposal – RFP CMA-2403
Sanitary Sewer Main Replacement**

The Chickasha Municipal Authority, Chickasha, Oklahoma is accepting proposals for Sanitary Sewer Main Replacement.

The project consists of replacing existing sanitary sewer main by pipe bursting along Colorado Avenue from 4th Street to 5th Street in Chickasha, Oklahoma.

Bids shall be made in accordance with this Invitation for Bids and the Bidding Documents.

Bids shall be addressed to the City Clerk, City of Chickasha, 117 North 4th Street, Chickasha, Oklahoma 73018, and shall be labeled "RFP CMA-2403, DO NOT OPEN" and "Sanitary Sewer Main Replacement." Proposals shall be submitted no later than 1:30 p.m. local time on August 20, 2024. It is the sole responsibility of the proponent to ensure that this proposal is actually in the City Hall of the City of Chickasha prior to the expiration of the time and date stated above. Bids may be delivered in person, by mail, delivery service, fax or e-mail. Fax bids to 405-222-6004. E-mail bids to Susan.mcdaniel@chickasha.org.

The Issuing Office for the Bidding Documents is: Chickasha Municipal Authority. Technical questions should be emailed to Jim Crosby at jim.crosby@chickasha.org or by calling 405-222-6080.

Upon consideration of the proposals, the Chickasha Municipal Authority reserves the right to accept or reject any and all proposals, to waive technicalities and to make any investigation deemed necessary concerning the proponent's ability to provide the services as covered by the specifications, and to accept what in their judgment is the most advantageous proposal.

Due to the type of project this is, the contractor will be not able to make purchases exempt from use taxes and sales taxes on this project.

Keith Johnson
Keith Johnson, City Manager

CERTIFICATION

I certify that the above "Request for Proposal" was posted on the bulletin board of City Hall, City of Chickasha, Oklahoma, on the _____ day of _____, 2024.
Susan McDaniel, City Clerk

INVITATION TO BID

MAIL SEALED BIDS TO:		PERSONAL OR COMMON CARRIER DELIVERY	
CHICKASHA CITY CLERK		CHICKASHA CITY CLERK	
117 NORTH 4TH STREET		117 NORTH 4TH STREET	
CHICKASHA, OKLAHOMA 73018		CHICKASHA, OKLAHOMA 73018	

DATE BID TYPED: 8/8/2024	BID NO: CMA-2403	TITLE: Sanitary Sewer Main Replacement
NO BIDS WILL BE ACCEPTED AFTER: 22nd day of August 2024 @ 1:30 p.m.		CONTRACT PERIOD:
VENDORS NAME:		REASON FOR NO BID:
MAILING ADDRESS:		
CITY:	STATE:	ZIP:
AREA CODE:	TELEPHONE NO.	FAX NO.
E-MAIL ADDRESS:		TERMS:
		DELIVERY:
		FEDERAL EMPLOYER IDENTIFICATION NO. OR SOCIAL SECURITY NO.

NON-COLLUSION AFFIDAVIT

(This bid is invalid if BOTH Affidavits are not signed and notarized)

STATE OF _____, COUNTY OF _____

_____ of lawful age, being first duly sworn on oath, says that 1. (s)he is the duly authorized agent of the above bidder submitting the competitive bid which is attached to this statement, for the purpose of certifying the facts pertaining to the existence of collusion among bidders and between bidders and city officials or employees, as well as facts pertaining to the giving or offering of things of value to city personnel in return for special consideration in the letting of any contract pursuant to the bid to which this statement is attached. 2. (s)he is fully aware of the facts and circumstances surrounding the making of the bid to which this statement is attached and has been personally and directly involved in the proceedings leading to the submission of such bid; and 3. Neither the bidder nor anyone subject to the bidder's direction or control has been a party:

- a. in any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding,
- b. to any collusion with any city official or employee as to quantity, quality or price in the prospective contract, nor
- c. in any discussions between bidders and any city official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

Subscribed and sworn to before me this _____ day of _____, 20____

Bidder

Notary _____

My Commission Expires: _____

THIS AFFIDAVIT MUST BE SIGNED AND NOTARIZED!

BUSINESS RELATION AFFIDAVIT

(This bid is invalid if BOTH Affidavits are not signed and notarized)

STATE OF _____, COUNTY OF _____

_____ of lawful age, being first duly sworn on oath, says that (s)he is the agent authorized by the bidder to submit the attached bid. Affiant further states that the nature of any relationship presently in effect or which existed within one (1) year prior to the date of this statement with the architect, engineer, or other party to the project is as follows:

Affiant further states that any such business relationship presently in effect or which existed within one (1) year prior to the date of this statement between any officer or director of the bidding company and any officer or director of the architectural or engineering firm or other party to the project is as follows:

Affiant further states that the names of all persons having any such business relationships and the positions they hold with their respective companies or firms are as follows:

(If none of the business relationships herein above mentioned exist; Affiant should so state).

Subscribed and sworn to before me this _____ day of _____, 20____

Bidder

Notary _____

My Commission Expires: _____

THIS AFFIDAVIT MUST BE SIGNED AND NOTARIZED!

SEALED BIDS: All sealed bids on and this form must be executed and submitted in a sealed envelope. (DO NOT INCLUDE MORE THAN ONE BID PER ENVELOPE). The face of the envelope shall contain, in addition to the mailing address, the words "SEALED BID" the date of the bid opening and the contract number. Bids submitted in Federal Express or other specialized delivery envelopes shall be enclosed in a separate envelope marked as indicated above. Bids not submitted in properly marked envelopes or on the attached bid form shall be rejected. In the case of "No Bid" the vendor shall return the "Invitation to Bid" with the "Reason for No Bid" properly filled in, to remain on the City of Chickasha's active vendor/contractor list.

EXECUTION OF BID: Bid must contain an original signature of an authorized representative in the space provided. Bids must be typed or printed in ink. Use of erasable ink is not permitted. ALL CORRECTIONS MADE BY BIDDER TO THIS BID MUST BE INITIALED.

BID OPENING: It is bidder's responsibility to assure that his bid is delivered at the proper time and place of the bid opening. Bids which for any reason are not so delivered, will not be considered. Offers by telegram or telephone are not acceptable. NOTE: Bid files may be examined during normal working hours by appointment. Bid calculations WILL NOT be provided by telephone.

MISTAKES: Bidders are expected to examine the specifications, delivery schedule, bid prices and all instructions pertaining to supplies and services. Failure to do so will be at bidder's risk. In case of mistake in extension, the unit price will govern.

INVOICING AND PAYMENT: The vendor shall be paid upon submission of proper certified invoices to the Chickasha Municipal Authority at the prices stipulated on the contract. Invoices shall contain the contract number and purchase order number. Failure to follow these instructions may result in delay of processing invoices for payment.

WAIVER: Chickasha Municipal Authority reserves the right to waive any general provision, special provision or minor specification deviation when considered to be in the best interest of the Chickasha Municipal Authority. Any bid received by the awarding public agency or an officer or employee thereof, more than ninety-six (96) hours excluding Saturdays, Sundays and holidays before the time set for the opening of bids, or any bid so received after the time set for opening of bids, shall not be considered by the awarding public agency and shall be returned unopened to the bidder submitting same.

Bid Proposal

I/We, the undersigned propose to provide, construct, and install Sanitary Sewer Main Replacement, in Chickasha, Ok meeting or exceeding specifications as described herein:

BID SCHEDULE PAGE

PAY ITEM	PAY ITEM DESCRIPTION	UNITS	EST QTY	UNIT PRICE	TOTAL PRICE
615	PIPE-BURSTING	LF	360	\$	\$
618	SEWER FLOW CONTROL	LSUM	1	\$	\$
624	TELEVISION INSPECTION	LF	890	\$	\$
625	SEWER PIPE LEAKAGE TESTING	L.SUM	1	\$	\$
626	SANITARY SEWER MANHOLES, INSTALLED	EA	2	\$	\$
651	HDPE PIPE (12-INCH), INSTALLED	LF	360	\$	\$
1	DE-WATERING	LSUM	1	\$	\$
2	4" CONCRETE SIDEWALK REPLACEMENT	SY	56	\$	\$
3	CONCRETE DRIVEWAY REPLACEMENT	SY	90	\$	\$
4	TACTILE WARNING DEVICE REPLACEMENT	SF	44	\$	\$
5	SOLID SLAB SODDING, INSTALLED	SY	278	\$	\$

TOTAL BID (NUMBERS) \$ _____

TOTAL BID (WORDS) _____

Completion Time _____

Bidder: _____ By: _____
Name of Company *Signature & Title*

Mailing Address: _____

_____ Phone No _____ Fax No _____ Email _____

SUBSCRIBED AND SWORN TO BEFORE ME THIS ____ DAY OF ____ 20____.

MY COMMISSION EXPIRES:

NOTARY PUBLIC

GENERAL PROVISIONS

1. Definitions

- A. "City" means the City of Chickasha.
- B. "CMA" means Chickasha Municipal Authority.
- C. "Acquisition" means items, products, materials, supplies, services, and equipment the City acquires by purchase, lease purchase, or rental.
- D. "Bid" means an offer in the form of a bid, proposal, or quote a bidder submits in response to a solicitation;
- E. "Bidder" means an individual or business entity that submits a bid in response to a solicitation;
- F. "Solicitation" means a request or invitation by the appropriate City Official for a supplier to submit a priced offer to sell acquisitions to the City. A solicitation may be an invitation to bid, request for proposal, or a request for quotation; and
- G. "Supplier" or "Vendor" means an individual or business entity that sells or desires to sell acquisitions to the city.

2. Submission

Sealed bids will be received by the Chickasha Municipal Authority for furnishing of equipment, materials, and supplies and incidental items necessary to perform the work as outlined in these specifications. Work will include the installation of pedestal mounted electrical panels. Copies of all bid documents are available for inspection in the Office of the City Clerk. Bids are to be submitted to the City Clerk, City of Chickasha, 117 North 4th Street, Chickasha, OK 73018, no later than the date and time indicated on the BID FORM. Submission of a Bid shall constitute an agreement on the part of the Bidder to all terms and conditions contained therein.

Bids received by the city after the response due date and time shall be deemed non-responsive and shall NOT be considered for any resultant award.

3. Insurance and Bonds

The policies of insurance shall be executed by an insurance or indemnity carrier authorized to do business in the State of Oklahoma and shall in all respects conform to the requirement of Governmental Tort Claims Act, Title 51 Oklahoma Statutes Sections 151 et seq. With liability limits to be no less than the amount specified therein and with the Chickasha Municipal Authority to be additional insured on all such required policies of insurance.

The successful Bidder will be required to execute the agreement and provide all necessary bonds and insurance within ten (10) calendar days from the date the Notice of Award is delivered to the Bidder.

The following bonds are required for this project:

- 1. Bid Bond
- 2. Construction Bond
- 3. Maintenance Bond

The following insurance documents are required for this project:

Public Liability Insurance in the amount of not less than fifty thousand dollars (\$50,000) for injuries, including accidental death, or one hundred thousand dollars (\$100,000) for one accident.

1. Comprehensive Public Liability and Property Damage
 - Bodily Injury \$ 125,000 per individual
 \$1,250,000 in the aggregate per occurrence
 - Property Damage \$ 25,000 per occurrence
 \$ 125,000 in the aggregate
2. Worker's Compensation Insurance. Statutory limits as required by the laws of the State of Oklahoma, including employer's liability insurance with \$500,000 limit.
3. Automobile Public Liability Insurance
 - Bodily Injury \$ 125,000 per individual
 \$1,000,000 in the aggregate per occurrence

The City shall be named as an additional insured.

4. Rejection of Bid

The city reserves the right to reject any and all bids, and any bids that do not comply with the requirements and specifications of the solicitation. A bid may be rejected when the bidder imposes terms or conditions that would modify requirements of the solicitation or limit the bidder's liability to the city.

5. Award of Contract

One contract will be awarded to the lowest and best bidder unless the solicitation specifies that the best value criteria is being used.

Only properly completed bids will be considered. A completed Bid shall include the following:

1. A fully completed "Bid Form".
2. A completed and Notarized "Non-Collusion Affidavit", "Business Relation Affidavit".
3. A Certified, Cashier's Check or Bid Bond made payable to the Chickasha Municipal Authority in
an amount of Five percent (5%) of the total amount of the bid submitted.

Any addenda issued to these specification, if any, shall be considered part of the specifications, subject to ratification by the Chickasha Municipal Authority at the time of awarding a contract for this project.

BID SUBMITTAL DEADLINE

Bids shall be submitted to the City Clerk at City Hall, 117 N. 4th, Chickasha, Oklahoma 73018 no later than the 22nd day of August, 2024 at 1:30 o'clock p.m. local time. Bids may be submitted in person, by mail, delivery service, fax or e-mail. Fax to 405-222-6004. E-mail to Susan.mcdaniel@chickasha.org.

**Chickasha Municipal Authority
Sanitary Sewer Main Replacement**

INSTRUCTIONS TO BIDDERS

1. Bid documents, plans, and specifications may be examined at the City Clerk's Office, 117 N. 4th Street, Chickasha, Oklahoma 73018.
2. All bids shall be accompanied by cashier's check or a certified check on a solvent bank in Oklahoma or a bid bond in the amount of five percent (5%) of the bid shall accompany the proposal of each bidder. The check or bond shall be made payable to the Owner. All checks or bonds will be returned to unsuccessful bidders. This check or bond shall be as a guarantee of contractor's ability to perform the contract bid upon, and that he will enter into a written contract with the Owner to perform said work and/or furnish said materials in accordance with said specifications and furnish the required bonds within ten (10) business days after the acceptance of his bid. No bidder may withdraw his bid for a period of sixty (60) days after the closing date for the receipt of bids.
3. In accordance with Oklahoma statutes, any bid must be accompanied by a Non-Collusion Affidavit and a Business Relations Affidavit. All bidders shall use the enclosed forms to satisfy this requirement.
4. Any bids received after the closing time will be returned unopened. Minority and small business owners are encouraged to submit proposals.
5. A Maintenance Bond in the amount of 100% of the contract price with a Corporate Surety licensed in Oklahoma and approved by the Owner guaranteeing the repair of all damage due to improper materials or workmanship for a period of one (1) year after the acceptance of the work by the Owner will be required. A Performance Bond and a Statutory Payment Bond in the amount of 100% of the contract price each with a Corporate Surety licensed in Oklahoma and approved by the Owner will be required for the faithful performance of the contract, and the bidder shall state in the proposal the name and address of the Surety or Sureties who will sign this bond in case the contract is awarded to him. Copies of required bond forms are included in the bid packet.

**Chickasha Municipal Authority
Sanitary Sewer Main Replacement**

SPECIFICATIONS

1. GENERAL CONDITIONS

- 1.1. The successful bidder (Contractor) will be acting as an authorized agent of the Chickasha Municipal Authority for Sanitary Sewer Main Replacement. The Contractor(s) will be issued a purchase order in the amount of quotation. This will serve as a notice to proceed.
- 1.2. Scope of Work - The purpose of these specifications is to define the minimum requirements for Sanitary Sewer Main Replacement along Colorado Avenue from 4th Street to 5th Street in Chickasha, Oklahoma.
- 1.3. Quoted prices shall remain valid for not less than 30-days.
- 1.4. The prices bid shall be for completed work as specified herein.
- 1.5. Bidders must include in their bid in the space provided the proposed completion time for the project. Said completion time will be considered part of the bid and if a contract is awarded, shall be the contract time.
- 1.6. The Chickasha Municipal Authority reserves the right to reject any and all bids.
- 1.7. The Chickasha Municipal Authority reserves the right to consider alternative proposals submitted in writing.
- 1.8. Contractor shall be responsible for Quality Control of all products and the work.
- 1.9. The work shall proceed continuously from Notice to Proceed until Final Completion.
- 1.10. Contractor shall perform all work consistent with MUTCD and OSHA regulations and requirements.
- 1.11. The contractor shall comply with the codes and ordinances of the City of Chickasha and all applicable laws of the State of Oklahoma.
- 1.12. Contractor shall participate in a pre-work conference with the Owner before beginning work.
- 1.13. All materials shall be new and shall be of standard production as offered by the manufacturer, unless otherwise approved by the Owner.
- 1.14. All work shall comply with the applicable Rules, Codes and Standards listed in these Specifications, and all Federal, State and Local codes and ordinances, as well as any other authorities that may have lawful jurisdiction pertaining to the work specified. None of the terms or provisions of this specification shall be construed as waiving any of the rules, regulations, or requirements of these authorities. The contractor shall procure all necessary permits or licenses to carry out his work.
- 1.15. Purchases of materials for this project shall not be exempt from Sales taxes and use taxes as provided for by State law.
- 1.16. Buy American requirements do not apply to this project.
- 1.17. The Contractor, by signing the bid proposal form herein, hereby represents that it shall hold the Chickasha Municipal Authority, Chickasha, Oklahoma, its employees or agents, harmless from any liability resulting from property damages and/or personal injuries that occur during, or as a result of, the demolition activity.
- 1.18. Default in performance or failure to meet specifications authorizes the City to withhold payment and cancel the contract.

- 1.19. All costs in connection with the work, including furnishing of materials, supplies and appurtenances, providing all demolition equipment and tools, and performing all necessary labor to fully complete the work, shall be included in the unit price named in the proposal.
- 1.20. Payment will be made when all work and clean-up of the entire site is completed and accepted by the Public Works Director.

2. SEQUENCE OF CONSTRUCTION

- 2.1. OWNER and CONTRACTOR recognize that time is of the essence of this agreement and that OWNER will suffer financial loss if the work is not substantially complete within the time specified in II.B above, plus any extensions thereof allowed. They also recognize the delays, expense and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by OWNER if the work is not substantially completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER One Thousand Five Hundred Dollars (\$1,500.00) for each day that expires after the time specified in paragraph 2.3 above for substantial completion until the work is substantially complete. Said liquidated damages, if any, may be deducted from progressive or final payments due the CONTRACTOR.

3. TECHNICAL PROVISIONS

- 3.1. Oklahoma Department of Environmental Quality (ODEQ) Rules and Regulations, Oklahoma Pollutant Discharge Elimination System (OPDES) permit OK0026018 and City of Chickasha Standard Specifications and Drawings shall govern the technical provisions.
- 3.2. During execution of this contract, the term "Department" shall mean the City of Chickasha Public Works Department.
- 3.3. During execution of this contract, the terms "Engineer" or "Resident Engineer" shall mean the Engineer retained by the Chickasha Municipal Authority. The Owner reserves the right to consider alternative proposals submitted in writing by Bidders or by the Contractor.
- 3.4. Refer to the Drawings for additional information.
- 3.5. The work shall proceed continuously from Notice to Proceed until Final Completion.
- 3.6. Dimensions and distances provided are approximate. Contractor shall verify dimensions in the field before ordering materials.

STATUTORY BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, as Principal, and
_____, as Surety, are
held firmly bound unto the Chickasha Municipal Authority in the sum of

_____ DOLLARS (\$ _____), for the payment of which, well and truly to be made, we, and each
of us, bind ourselves, our heirs, executors and assigns, themselves, and its successors and assigns, jointly
and severally, firmly by these presents.

Dated this _____ day of _____, 20__.

The conditions of this obligation are such, that whereas, the above Bonded Principal
_____ is the lowest and best bidder for the making of the following work
and improvements, viz:

CMA-2403 Sanitary Sewer Main Replacement in Chickasha, Oklahoma (Project)
and has entered into a certain written contract with the Chickasha Municipal Authority on the _____
day of _____ 20__, for the construction of said work and improvement, in exact
accordance with the bid of said Principal, and according to certain specifications heretofore made, adopted
and placed on file in the office of the City Clerk of the City of Chickasha.

NOW, THEREFORE, if said principal shall fail or neglect to pay all indebtedness incurred by said Principal
or subcontractor of said Principal who perform work in the performance of such, for labor and materials
furnished by any supplier and consumed in the performance of said contract, and such repairs to and rental
of machinery and equipment as may be furnished by a subcontractor to the person or persons contracting
with this Owner within thirty (30) days after the same becomes due and payable, the person, firm or
corporation entitled thereto may sue and recover on this bond, the amount so due and unpaid.

It is further expressly agreed and understood by the parties hereto that no changes or alterations in said
Contract and no deviations from the plan or mode of procedure herein fixed shall have the effect of releasing
the sureties, or any of them, for the obligations of this Bond.

IN WITNESS WHEREOF, the said Principal has caused these presents to be executed in its name and its
corporate seal to be hereunto affixed by its duly authorized officers, and the said Surety has caused these
presents to be executed in its name and its corporate seal to be hereunto affixed by its attorney—in—fact,
duly authorized so to do, the day and year first above written.

ATTEST:

_____	Principal
_____	By: _____
Secretary	_____
	Surety
	By: _____

ATTEST:

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS THAT:

_____, as Principal,
and _____, a corporation
organized under the laws of the State of _____, as Surety, are held and firmly bound unto
the Chickasha Municipal Authority, in the penal sum of _____
_____ Dollars (\$_____) in
lawful money of the United States of America, for the payment of which, well and truly to be made, we
bind ourselves and each of us, our heirs, executors, administrators, trustees, successors, and assigns, jointly
and severally, firmly by these presents.

The condition of this obligation is such that WHEREAS, said Principal entered into a written contract with
the Chickasha Municipal Authority, dated _____, 20____, for the CMA-2403 Sanitary Sewer Main
Replacement in Chickasha, Oklahoma (PROJECT) all incompliance with the specifications therefore, made
a part of said Contract and on file in the office of the City Clerk, City of Chickasha, Oklahoma.

NOW THEREFORE, if said Principal shall, in all particulars, well, truly and faithfully perform and abide
by said Contract and each and every covenant, condition, and part thereof, and shall fulfill all obligations
resting upon said Principal by the terms of said Contract and said specifications, and if said Principal shall
protect and save harmless said Chickasha Municipal Authority from any pecuniary loss resulting from the
reach of any of the items, covenants and conditions of said Contract resting upon said Principal, then this
obligation shall be null and void, otherwise to be and retain in full force and effect.

It is further expressly agreed and understood by the parties hereto that no changes or alternations in said
Contract and no deviations from the plan or mode of procedure herein fixed shall have the effect of releasing
the Sureties, or any of them, from the obligations of this Bond.

IN WITNESS WHEREOF, the said Principal has caused these presents to be executed in its name and its
corporate seal to be hereunto affixed by its duly authorized officers, and the said Surety has caused these
presents to be executed in its name and its corporate seal to be hereunto affixed by its attorney-in-fact, duly
authorized so to do, the day and year set forth below.

Dated this _____ day of _____, 20____.

Principal

ATTEST:

Secretary

By: _____

Surety

ATTEST:

By: _____

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____ as Principal,
and _____, as Surety, are
held and firmly bound into the CHICKASHA MUNICIPAL AUTHORITY, a Public Trust in the
State of Oklahoma, in the full and just sum of _____

DOLLARS

(\$ _____) such sum being equal to the contract price for the payment of
which, well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, and
assigns, themselves, and its successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such, that whereas, said Principal, has by certain contract
between _____ and the CHICKASHA MUNICIPAL
AUTHORITY dated this _____ day of _____, 20____, agreed to perform for
the Chickasha Municipal Authority, CMA-2403 Sanitary Sewer Main Replacement in compliance
with the specifications therefore, made part of said contract and on file in the office of the City
Clerk of the City of Chickasha; and to maintain the said improvement in the amounts set forth
above against any failure due to workmanship or material for a period of ONE year from the date
of acceptance of the work by the Chickasha Municipal Authority.

NOW THEREFORE, if said Principal shall pay or cause to be paid to the Chickasha Municipal
Authority all damages, loss and expense, which may result by reason of defective materials and/or
workmanship in connection with said work, occurring within a period of ONE year from and after
acceptance of said project by the OWNER; and if Principal shall save and hold harmless the
OWNER from all damages, loss and expense occasioned by or resulting from any failure
whatsoever of said Principal, then this obligation shall be null and void, otherwise to be and remain
in full force and effect.

It is further agreed that if the said Principal or Surety herein shall fail to maintain said
improvements against any failure due to defective workmanship and/or material for a period of
ONE year and at any time repairs shall be necessary, that the cost of making said repairs shall be
determined by the Chickasha Municipal Authority or some person(s) designated by them to
ascertain the same; and if, upon thirty (30) days' notice, the said amount ascertained shall not be
paid by the Principal or Surety herein, or if the necessary repairs are not made, that said amount
shall become due upon the expiration of thirty (30) days and suit may be maintained to recover the
amount so determined in any court of competent jurisdiction; and that the amount so determined
shall be conclusive upon the parties as to the amount due on this bond for the repair(s) included
therein, and that the cost of all repairs shall be so determined from time-to-time during the life of
this bond as the conditions of the improvements may require.

It is further expressly agreed and understood by the parties hereto that no changes or alterations in
said contract and no deviations from the plan or mode of procedure herein fixed shall have the
effect of releasing the sureties, or any of them, from the obligations of this bond.

IN WITNESS WHEREOF, the said Principal has caused these presents to be executed in its name
and its corporate seal to be hereunto affixed by its duly authorized officers; and the said Surety has
caused these presents to be executed in its name and its corporate seal to be hereunto affixed by

CMA-2403 Sanitary Sewer Main Replacement

Page 12 of 13

its attorney-in-fact, duly authorized so to do, the day and year first above written.

ATTEST:

Principal

Secretary

By: _____

Surety

ATTEST:

By: _____



CHISHOLM TRAIL CONSULTING, LLC

R. Scott Vaughn, P.E., CFM
Professional Engineering Services
580-467-8130
rscottv11@gmail.com

ADDENDUM #1

DATE: August 22, 2024

PROJECT: Chickasha Municipal Authority
RFP CMA-2403 – SANITARY SEWER MAIN REPLACEMENT

This Addendum clarifies, corrects or changes the Bid Documents or Contract Requirements as noted:

1. This item clarifies the date of the bid submittal deadline.

The date of the bid submittal deadline is August 22, 2024. The time for the bid submittal deadline is 1:30 p.m. local time.

Receipt of Addendum #1 is
hereby acknowledged by:

Name of Firm

Date

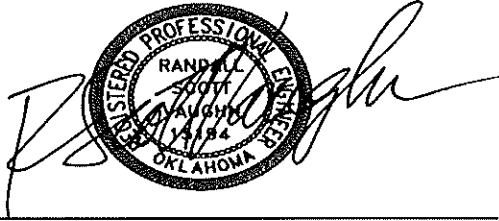
Name/Title

***THE SUCCESSFUL BIDDER WILL BE REQUIRED TO SIGN THIS ADDENDUM
ACKNOWLEDGING RECEIPT.***

CHICKASHA MUNICIPAL AUTHORITY
SANITARY SEWER MAIN REPLACEMENT
COLORADO AVENUE FROM 4TH TO 5TH
ENGINEER'S ESTIMATE

SUMMARY OF QUANTITIES

PAY ITEM NO.	PAY ITEM DESCRIPTION	UNITS	EST QTY	UNIT BID PRICE	EST TOTAL COST
615	PIPE-BURSTING	LF	360	\$ 200.00	\$ 72,000.00
618	SEWER FLOW CONTROL	LSUM	1	\$ 50,000.00	\$ 50,000.00
624	TELEVISION INSPECTION	LF	890	\$ 30.00	\$ 26,700.00
625	SEWER PIPE LEAKAGE TESTING	L.SUM	1	\$ 7,500.00	\$ 7,500.00
626	SANITARY SEWER MANHOLES, INSTALLED	EA	2	\$ 25,000.00	\$ 50,000.00
651	HDPE PIPE (12-INCH), INSTALLED	LF	360	\$ 200.00	\$ 72,000.00
1	DE-WATERING	LSUM	1	\$ 75,000.00	\$ 75,000.00
2	4" CONCRETE SIDEWALK REPLACEMENT	SY	56	\$ 100.00	\$ 5,600.00
3	CONCRETE DRIVEWAY REPLACEMENT	SY	90	\$ 150.00	\$ 13,500.00
4	TACTILE WARNING DEVICE REPLACEMENT	SF	44	\$ 75.00	\$ 3,300.00
5	SOLID SLAB SODDING, INSTALLED	SY	278	\$ 7.50	\$ 2,085.00
TOTAL					\$ 377,685.00

ENGINEER

8/22/2024
DATE

Bid Proposal

I/We, the undersigned propose to provide, construct, and install Sanitary Sewer Main Replacement, in Chickasha, Ok meeting or exceeding specifications as described herein:

BID SCHEDULE PAGE

PAY ITEM	PAY ITEM DESCRIPTION	UNITS	EST QTY	UNIT PRICE	TOTAL PRICE
615	PIPE-BURSTING	LF	360	\$ 120.00	\$ 43,200.00
618	SEWER FLOW CONTROL	LSUM	1	\$ 4000.00	\$ 4,000.00
624	TELEVISION INSPECTION	LF	890	\$ 3.00	\$ 2,670.00
625	SEWER PIPE LEAKAGE TESTING	L.SUM	1	\$ 1800.00	\$ 1,800.00
626	SANITARY SEWER MANHOLES, INSTALLED	EA	2	\$ 11,000	\$ 22,000.00
651	HDPE PIPE (12-INCH), INSTALLED	LF	360	\$ 120.00	\$ 43,200.00
1	DE-WATERING	LSUM	1	\$ 3,000	\$ 3,000.00
2	4" CONCRETE SIDEWALK REPLACEMENT	SY	56	\$ 240.00	\$ 13,440
3	CONCRETE DRIVEWAY REPLACEMENT	SY	90	\$ 280.00	\$ 25,200.00
4	TACTILE WARNING DEVICE REPLACEMENT	SF	44	\$ 58.00	\$ 2552.00
5	SOLID SLAB SODDING, INSTALLED	SY	278	\$ 12.50	\$ 3,475.00

TOTAL BID (NUMBERS) \$ 164,487.00

TOTAL BID (WORDS) One hundred sixty four thousand nine hundred ninety seven and 00/100

Completion Time 6 weeks

Bidder: LeeTech Services LLC By: B. M. M. M. M. M.
Name of Company Signature & Title

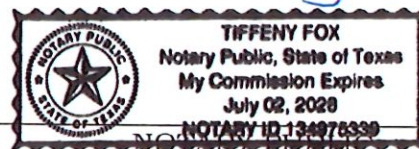
Mailing Address: PO Box 61 Tulsa, TX 74562

817 805 6405 817 805 6405 RYAN.H.3874@yahoo.com
Phone No Fax No Email

SUBSCRIBED AND SWORN TO BEFORE ME THIS 22 DAY OF Aug 24

MY COMMISSION EXPIRES:

July 2, 2028



Tiffany Fox

INVITATION TO BID

MAIL SEALED BIDS TO:		PERSONAL OR COMMON CARRIER DELIVERY	
CHICKASHA CITY CLERK		CHICKASHA CITY CLERK	
117 NORTH 4TH STREET		117 NORTH 4TH STREET	
CHICKASHA, OKLAHOMA 73018		CHICKASHA, OKLAHOMA 73018	

DATE BID TYPED: 8/8/2024	BID NO. CMA-2403	TITLE: Sanitary Sewer Main Replacement
NO BIDS WILL BE ACCEPTED AFTER: 22nd day of August 2024 @ 1:30 p.m.		CONTRACT PERIOD

VENDORS NAME: <i>Leete Services LLC</i>		REASON FOR NO BID:
MAILING ADDRESS: <i>PO Box 61</i>		
CITY: <i>Tulsa</i>	STATE: <i>TX</i>	ZIP: <i>74562</i>
AREA CODE: <i>817</i>	TELEPHONE NO. <i>805 6405</i>	FAX NO.
E-MAIL ADDRESS: <i>BRYAN H 3874 @YAHOO.COM</i>		FEDERAL EMPLOYER IDENTIFICATION NO. OR SOCIAL SECURITY NO. <i>99-0687818</i>

NON-COLLUSION AFFIDAVIT

(This bid is invalid if BOTH Affidavits are not signed and notarized)

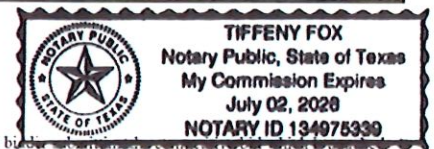
STATE OF TX, COUNTY OF Taylor
Bryan Henderson lawful age, being first duly sworn on oath, says that 1. (s)he is the duly authorized agent of the above bidder, 2. (s)he is fully aware of the facts and circumstances surrounding the making of the bid to which this statement is attached and has been personally and directly involved in the proceedings leading to the submission of such bid, and 3. Neither the bidder nor anyone subject to the bidder's direction or control has been a party:

- a. to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding.
- b. to any collusion with any city official or employee as to quantity, quality or price in the prospective contract, nor
- c. in any discussions between bidders and any city official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

Subscribed and sworn to before me this 22 day of August, 2024
[Signature]
 Notary
 My Commission Expires: 7/2/28

Leete Services LLC
 Bidder

THIS AFFIDAVIT MUST BE SIGNED AND NOTARIZED!



BUSINESS RELATION AFFIDAVIT

(This bid is invalid if BOTH Affidavits are not signed and notarized)

STATE OF TX, COUNTY OF Taylor
Bryan Henderson of lawful age, being first duly sworn on oath, says that (s)he is the agent authorized by the bidder to submit the affidavit. Affiant further states that any such business relationship presently in effect or which existed within one (1) year prior to the date of this statement with the architect, engineer, or other party to the project is as follows:

Affiant further states that any such business relationship presently in effect or which existed within one (1) year prior to the date of this statement between any officer or director of the bidding company and any officer or director of the architectural or engineering firm or other party to the project is as follows:

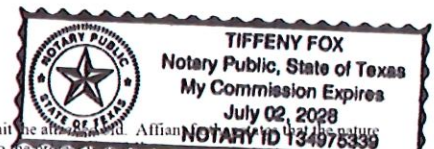
Affiant further states that the names of all persons having any such business relationships and the positions they hold with their respective companies or firms are as follows:

(If none of the business relationships herein above mentioned exist, Affiant should so state).

Subscribed and sworn to before me this 22 day of August, 2024
[Signature]
 Notary
 My Commission Expires: 7/2/28

Leete Services LLC
 Bidder

THIS AFFIDAVIT MUST BE SIGNED AND NOTARIZED!



SEALED BIDS: All sheets bid on and this form must be executed and submitted in a sealed envelope (DO NOT INCLUDE MORE THAN ONE BID PER ENVELOPE). The face of the envelope shall contain, in addition to the mailing address, the words "SEALED BID" the date of the bid opening and the contract number. Bids submitted in Federal Express or other specialized delivery envelopes shall be enclosed in a separate envelope marked as indicated above. Bids not submitted in properly marked envelopes or on the attached bid form shall be rejected. In the case of "No Bid" the vendor shall return the "Invitation to Bid" with the "Reason for No Bid" properly filled in, to remain on the City of Chickasha's active vendor/contractor list.

EXECUTION OF BID: Bid must contain an original signature of an authorized representative in the space provided. Bids must be typed or printed in ink. Use of erasable ink is not permitted. ALL CORRECTIONS MADE BY BIDDER TO HIS BID MUST BE INITIALED.

BID OPENING: It is bidder's responsibility to assure that his bid is delivered at the proper time and place of the bid opening. Bids which for any reason are not so delivered, will not be considered. Offers by telegram or telephone are not acceptable. **NOTE:** Bid files may be examined during normal working hours by appointment. Bid tabulations WILL NOT be provided by telephone.

MISTAKES: Bidders are expected to examine the specifications, delivery schedule, bid prices and all instructions pertaining to supplies and services. Failure to do so will be at bidder's risk. In case of mistake in extension, the unit price will govern.

INVOICING AND PAYMENT: The vendor shall be paid upon submission of proper certified invoices to the Chickasha Municipal Authority at the prices stipulated on the contract. Invoices shall contain the contract number and purchase order number. Failure to follow these instructions may result in delay of processing invoices for payment.

WAIVER: Chickasha Municipal Authority reserves the right to waive any general provision, special provision or minor specification deviation when considered to be in the best interest of the Chickasha Municipal Authority. Any bid received by the awarding public agency or an officer or employee thereof, more than ninety-six (96) hours excluding Saturdays, Sundays and holidays before the time set for the opening of bids, or any bid so received after the time set for opening of bids, shall not be considered by the awarding public agency and shall be returned unopened to the bidder submitting same.

THE AMERICAN INSTITUTE OF ARCHITECTS

AIA Document A310 Bid Bond

KNOW ALL MEN BY THESE PRESENTS, THAT WE LeeTech Services, LLC
1901 FM 614, Ovalo, TX 79541

as Principal, hereinafter called the Principal, and Old Republic Surety Company
P. O. Box 1635, Milwaukee, WI 53201-1635

a corporation duly organized under the laws of the State of WI

as Surety, hereinafter called the Surety, are held and firmly bound unto City of Chickasha

117 North 4th Street, Chickasha, OK 73018

as Obligor, hereinafter called the Obligor, in the sum of Five Percent of Total Amount Bid

Dollars (\$ 5% TAB),

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for CMA-2403 Sanitary Sewer Replacement

NOW, THEREFORE, if the Obligor shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligor in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and materials furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligor the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligor may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this 15th day of August, 2024

LeeTech Services, LLC

(Principal)

(Seal)

By: [Signature]

(Title)

(Witness)

Old Republic Surety Company

(Surety)

(Seal)

By: [Signature]

Attorney-in-Fact Kevin Kirk

(Title)

AIA DOCUMENT A310 • BID BOND • AIA • FEBRUARY 1970 ED. • THE AMERICAN
INSTITUTE OF ARCHITECTS, 1735 N.Y. AVE., N.W., WASHINGTON, D.C. 20006



OLD REPUBLIC SURETY COMPANY

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS That OLD REPUBLIC SURETY COMPANY, a Wisconsin stock insurance corporation, does make, constitute and appoint

Kevin Kirk

its true and lawful Attorney(s)-in-Fact, with full power and authority for and on behalf of the company as surety, to execute and deliver and affix the seal of the company thereto (if a seal is required), bonds, undertakings, recognizances or other written obligations in the nature thereof, *(other than bail bonds, bank depository bonds, mortgage deficiency bonds, mortgage guaranty bonds, guarantees of installment paper and note guaranty bonds, self-insurance workers compensation bonds guaranteeing payment of benefits, or black lung bonds)*, as follows

ALL WRITTEN INSTRUMENTS

Principal: LeeTech Services, LLC

Obligee: City of Chickasha

and to bind OLD REPUBLIC SURETY COMPANY thereby, and all of the acts of said Attorneys-in-Fact, pursuant to these presents, are ratified and confirmed. This appointment is made under and by authority of the board of directors at a special meeting held on February 18, 1992

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following resolutions adopted by the board of directors of the OLD REPUBLIC SURETY COMPANY on February 18, 1992.

RESOLVED that, the president, any vice-president or assistant vice president, in conjunction with the secretary or any assistant secretary, may appoint attorneys-in-fact or agents with authority as defined or limited in the instrument evidencing the appointment in each case, for and on behalf of the company to execute and deliver and affix the seal of the company to bonds, undertakings, recognizances, and suretyship obligations of all kinds; and said officers may remove any such attorney-in-fact or agent and revoke any Power of Attorney previously granted to such person.

RESOLVED FURTHER that any bond, undertaking, recognizance, or suretyship obligation shall be valid and binding upon the Company

- (i) when signed by the president, any vice president or assistant vice president, and attested and sealed (if a seal be required) by any secretary or assistant secretary, or
- (ii) when signed by the president, any vice president or assistant vice president, secretary or assistant secretary and countersigned and sealed (if a seal be required) by a duly authorized attorney-in-fact or agent, or
- (iii) when duly executed and sealed (if a seal be required) by one or more attorneys-in-fact or agents pursuant to and within the limits of the authority evidenced by the Power of Attorney issued by the company to such person or persons

RESOLVED FURTHER that the signature of any authorized officer and the seal of the company may be affixed by facsimile to any Power of Attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the company, and such signature and seal when so used shall have the same force and effect as though manually affixed

IN WITNESS WHEREOF OLD REPUBLIC SURETY COMPANY has caused these presents to be signed by its proper officer and its corporate seal to be affixed this 20th day of September, 2022

Karen J. Haffner
Assistant Secretary



OLD REPUBLIC SURETY COMPANY

Alan Pavlic
President

STATE OF WISCONSIN, COUNTY OF WAUKESHA - SS

On this 20th day of September, 2022, personally came before me Alan Pavlic and Karen J. Haffner, to me known to be the individuals and officers of the OLD REPUBLIC SURETY COMPANY who executed the above instrument, and they each acknowledged the execution of the same, and being by me duly sworn, did severally depose and say: that they are the said officers of the corporation aforesaid, and that the seal affixed to the above instrument is the seal of the corporation, and that said corporate seal and their signatures as such officers were duly affixed and subscribed to the said instrument by the authority of the board of directors of said corporation.



Kathryn R. Pearson
Notary Public

My Commission Expires September 28, 2026

(Expiration of notary's commission does not invalidate this instrument)

CERTIFICATE

I, the undersigned, assistant secretary of the OLD REPUBLIC SURETY COMPANY, a Wisconsin corporation, CERTIFY that the foregoing and attached Power of Attorney remains in full force and has not been revoked, and furthermore that the Resolutions of the board of directors set forth in the Power of Attorney, are now in force



Signed and sealed at the City of Brookfield, WI this 15th day of August, 2024

Karen J. Haffner
Assistant Secretary

IMPORTANT NOTICE

To obtain information or make a complaint:

You may call Old Republic Surety Company's and/or Old Republic Insurance Company's toll-free telephone number for information or to make a complaint at:

1-(800) 527-9834

You may also write to Old Republic Surety Company and/or Old Republic Insurance Company at:

**8111 LBJ Freeway, Suite 530
Dallas, TX 75251**

You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights or complaints at:

1-(800) 252-3439

You may write the Texas Department of Insurance:

P.O. Box 149104
Austin, TX 78714-9104
Fax: (512) 475-1771
Web: <http://www.tdi.state.tx.us>
E-Mail: ConsumerProtection@tdi.state.tx.us

PREMIUM OR CLAIM DISPUTES:

Should you have a dispute concerning your premium or about a claim you should contact the agent or Old Republic Surety Company and/or Old Republic Insurance Company first. If the dispute is not resolved, you may contact the Texas Department of Insurance.

ATTACH THIS NOTICE TO YOUR

POLICY: This notice is for information only and does not become a part or condition of the attached document.

AVISO IMPORTANTE

Para obtener informacion o para someter una queja:

Usted puede llamar al numero de telefono gratis de Old Republic Surety Company's / Old Republic Insurance Company's para informacion o para someter una queja al:

1-(800) 527-9834

Usted tambien puede escribir a Old Republic Surety Company / Old Republic Insurance Company:

**8111 LBJ Freeway, Suite 530
Dallas, TX 75251**

Puede comunicarse con el Departamento de Seguros de Texas para obtener informacion acerca de companies, coberturas, derechos o quejas al:

1-(800) 252-3439

Puede escribir al Departamento de Seguros de Texas:

P.O. Box 149104
Austin, TX 78714-9104
Fax: (512) 475-1771
Web: <http://www.tdi.state.tx.us>
E-Mail: ConsumerProtection@tdi.state.tx.us

DISPUTAS SOBRE PRIMAS O RECLAMOS:

Si tiene una disputa concerniente a su prima o a un reclamo, debe comunicarse con el agente o Old Republic Surety Company / Old Republic Insurance Company primero. Si no se resuelve la disputa, puede entonces comunicarse con el departamento (TDI).

UNA ESTE AVISO A SU POLIZA: Este aviso es solo para proposito de informacion y no se convierte en parte o condicion del documento adjunto.

Matthews Trenching CO., INC,

PO Box 15479

Oklahoma City, OK 73155

SANITARY SEWER MAIN REPLACEMENT

CMA-2403

CHICKASHA MUNICIPAL AUTHORITY

117 NORTH 4TH STREET

CHICKASHA, OK

Bid Proposal

I/We, the undersigned propose to provide, construct, and install Sanitary Sewer Main Replacement, in Chickasha, Ok meeting or exceeding specifications as described herein:

BID SCHEDULE PAGE

PAY ITEM	PAY ITEM DESCRIPTION	UNITS	EST QTY	UNIT PRICE	TOTAL PRICE
615	PIPE-BURSTING	LF	360	\$100.00	\$ 36,000.00
618	SEWER FLOW CONTROL	LSUM	1	\$ 30,000.00	\$ 30,000.00
624	TELEVISION INSPECTION	LF	890	\$5.00	\$4,450.00
625	SEWER PIPE LEAKAGE TESTING	L.SUM	1	\$2,500.00	\$ 2,500.00
626	SANITARY SEWER MANHOLES, INSTALLED	EA	2	\$5,000.00	\$10,000.00
651	HDPE PIPE (12-INCH), INSTALLED	LF	360	\$200.00	\$72,000.00
1	DE-WATERING	LSUM	1	\$40,000.00	\$40,000.00
2	4" CONCRETE SIDEWALK REPLACEMENT	SY	56	\$165.00	\$ 9,240.00
3	CONCRETE DRIVEWAY REPLACEMENT	SY	90	\$315.00	\$28,350.00
4	TACTILE WARNING DEVICE REPLACEMENT	SF	44	\$95.00	\$ 4,180.00
5	SOLID SLAB SODDING, INSTALLED	SY	278	\$10.00	\$2,780.00

TOTAL BID (NUMBERS) \$ 239,500.00

TOTAL BID (WORDS) _____

Two Hundred Thirty Nine Thousand Five Hundred & No/100 Dollars

Completion Time 30 Days

Bidder: Matthews Trenching Co., INC.
Name of Company

By:

[Signature]
Signature & Title

Mailing Address: PO Box 15479, Oklahoma City, OK 73155

405-677-4525

Phone No

405-677-4835

Fax No

jallison@mtciokc.com

Email

SUBSCRIBED AND SWORN TO BEFORE ME THIS 22nd DAY OF Aug 20 24.

MY COMMISSION EXPIRES:

August 6, 2028



[Signature]
NOTARY PUBLIC

INVITATION TO BID

MAIL SEALED BIDS TO:		PERSONAL OR COMMON CARRIER DELIVERY	
CHICKASHA CITY CLERK		CHICKASHA CITY CLERK	
117 NORTH 4TH STREET		117 NORTH 4TH STREET	
CHICKASHA, OKLAHOMA 73018		CHICKASHA, OKLAHOMA 73018	

DATE BID TYPED: 8/8/2024	BID NO: CMA-2403	TITLE: Sanitary Sewer Main Replacement	
NO BIDS WILL BE ACCEPTED AFTER: 22nd day of August 2024 @ 1:30 p.m.		CONTRACT PERIOD	
VENDOR'S NAME: Matthews Trenching co., INC.		REASON FOR NO BID	
MAILING ADDRESS: PO Box 15479			
CITY: Oklahoma City	STATE: OK	ZIP: 73155	TERMS:
AREA CODE: 405	TELEPHONE NO. 677-4525	FAX NO. 405-677-4835	DELIVERY: Email
E-MAIL ADDRESS: jallison@mtciokc.com			FEDERAL EMPLOYER IDENTIFICATION NO. OR SOCIAL SECURITY NO. 73-0955397

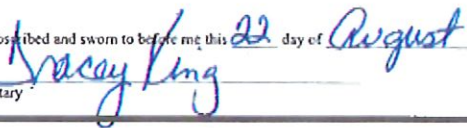
NON-COLLUSION AFFIDAVIT

(This bid is invalid if BOTH Affidavits are not signed and notarized)

STATE OF _____, COUNTY OF _____,

_____ of lawful age, being first duly sworn on oath, says that I, (s)he is the duly authorized agent of the above bidder submitting the competitive bid which is attached to this statement, for the purpose of certifying the facts pertaining to the existence of collusion among bidders and between bidders and city officials or employees, as well as facts pertaining to the giving or offering of things of value to city personnel in return for special consideration in the letting of any contract pursuant to the bid to which this statement is attached. 2. (s)he is fully aware of the facts and circumstances surrounding the making of the bid to which this statement is attached and has been personally and directly involved in the proceedings leading to the submission of such bid; and 3. Neither the bidder nor anyone subject to the bidder's direction or control has been a party:

- a. to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding,
- b. to any collusion with any city official or employee as to quantity, quality or price in the prospective contract, nor
- c. in any discussions between bidders and any city official concerning exchange of money or anything of value for special consideration in the letting of a contract

Subscribed and sworn to before me this 22 day of August, 2024

 Notary



Bidder _____

THIS AFFIDAVIT MUST BE SIGNED AND NOTARIZED!

BUSINESS RELATION AFFIDAVIT

(This bid is invalid if BOTH Affidavits are not signed and notarized)

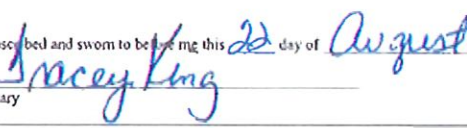
STATE OF _____, COUNTY OF _____,

_____ of lawful age, being first duly sworn on oath, says that (s)he is the agent authorized by the bidder to submit the attached bid. Affiant further states that the nature of any relationship presently in effect or which existed within one (1) year prior to the date of this statement with the architect, engineer, or other party to the project is as follows:

Affiant further states that any such business relationship presently in effect or which existed within one (1) year prior to the date of this statement between any officer or director of the bidding company and any officer or director of the architectural or engineering firm or other party to the project is as follows:

Affiant further states that the names of all persons having any such business relationships and the positions they hold with their respective companies or firms are as follows:

(If none of the business relationships herein above mentioned exist; Affiant should so state).

Subscribed and sworn to before me this 22 day of August, 2024

 Notary



Bidder _____

THIS AFFIDAVIT MUST BE SIGNED AND NOTARIZED!

SEALED BIDS: All sheets bid on and this form must be executed and submitted in a sealed envelope. (DO NOT WRITE MORE THAN ONE BID PER ENVELOPE). The face of the envelope shall contain, in addition to the mailing address, the words "SEALED BID" the date of the bid opening and the contract number. Bids submitted in Federal Express or other specialized delivery envelopes shall be enclosed in a separate envelope marked as indicated above. Bids not submitted in properly marked envelopes or on the attached bid form shall be rejected. In the case of "No Bid" the vendor shall return the "Invitation to Bid" with the "Reason for No Bid" properly filled in, to remain on the City of Chickasha's active vendor/contractor list.

EXCLUSION OF BID: Bid must contain an original signature of an authorized representative in the space provided. Bids must be typed or printed in ink. Use of erasable ink is not permitted. ALL CORRECTIONS MADE BY BIDDER TO HIS BID MUST BE INITIALED.

BID OPENING: It is bidder's responsibility to assure that his bid is delivered at the proper time and place of the bid opening. Bids which for any reason are not so delivered, will not be considered. Offers by telegram or telephone are not acceptable. **NOTE:** Bid files may be examined during normal working hours by appointment. Bid tabulations WILL NOT be provided by telephone.

MISTAKE: Bidders are expected to examine the specifications, delivery schedule, bid prices and all instructions pertaining to supplies and services. Failure to do so will be at bidder's risk. In case of mistake in extension, the unit price will govern.

INVOICING AND PAYMENT: The vendor shall be paid upon submission of proper certified invoices to the Chickasha Municipal Authority at the prices stipulated on the contract. Invoices shall contain the contract number and purchase order number. Failure to follow these instructions may result in delay of processing invoices for payment.

WAIVER: Chickasha Municipal Authority reserves the right to waive any general provision, special provision or minor specification deviation when considered to be in the best interest of the Chickasha Municipal Authority. Any bid received by the awarding public agency or an officer or employee thereof, more than ninety-six (96) hours excluding Saturdays, Sundays and holidays before the time set for the opening of bids, or any bid so received after the time set for opening of bids, shall not be considered by the awarding public agency and shall be returned unopened to the bidder submitting same.

Bond No. _____

Fidelity and Deposit Company

1299 Zurich Way

OF MARYLAND

Schaumburg, IL 60196

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, Matthews Trenching Co., Inc.

as Principal, (hereinafter called the "Principal"),
and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, 1299 Zurich Way, Schaumburg, Illinois 60196, a corporation
duly organized under the laws of the State of Illinois, as Surety, (hereinafter called the "Surety"), are held and
firmly bound unto Chickasha Municipal Authority

as Obligee, (hereinafter called the "Obligee"),
in the sum of Five Percent of Total Amount Bid Dollars (\$ 5%),
for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs,
executors, administrators, successors and assigns, Jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for
RFP CMA-2403 Sanitary Sewer Main Replacement

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a contract
with the Obligee in accordance with the terms of such bid and give such bond or bonds as may be specified in the bidding
or contract documents with good and sufficient surety for the faithful performance of such contract and for the prompt
payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter
into such contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed
the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good
faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void,
otherwise to remain in full force and effect.

Signed and sealed this 22nd day of August

Tracy King

Witness

Matthews Trenching Co., Inc.

Steve J. Hunt
President



FIDELITY AND DEPOSIT COMPANY OF MARYLAND

Surety

Becky Killman
Becky Killman

Witness

By

Carey L. Kennemer
Carey L. Kennemer, Attorney-in-Fact Title

C3251 50M, 7-92 236374
Conforms to American Institute of Architects Document A-310,
February 1970 Edition

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 22nd day of August, 2024.



A handwritten signature in cursive script, reading "Thomas O. McClellan".

Thomas O. McClellan
Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

1299 Zurich Way
Schaumburg, IL 60196-1056
reportsfclaims@zurichna.com

800-626-4577

Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790

**ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by Robert D. Murray, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint to Clayton HOWELL, Vicki WILSON, Austin K. GREENHAW, J. Kelly DEER, Shelli R. SAMSEL, Travis E. BROWN, Jamie BURRIS, Vaughn P. GRAHAM, Vaughn P. GRAHAM, JR., Stephen M. POLEMAN, Deborah L. RAPER, Dwight A. PILGRIM, Gary LILES, Randy D. WEBB, Bobby Joe YOUNG, Aaron WOOLSEY, Carey L. KENNEMER, Kristin LEWIS, Joshua BRYAN, Becky KILLMAN of Tulsa, Oklahoma, its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings**, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York, the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland, and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland, in their own proper persons.

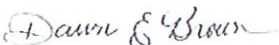
The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 04th day of January, A.D. 2024.



ATTEST:
ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND


By: **Robert D. Murray**
Vice President


By: **Dawn E. Brown**
Secretary

**State of Maryland
County of Baltimore**

On this 04th day of January, A.D. 2024, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Robert D. Murray, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, depose and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Genevieve M. Maison



Authenticity of this bond can be confirmed at bondvalidator.zurichna.com or 410-559-8790



CHISHOLM TRAIL CONSULTING, LLC

R. Scott Vaughn, P.E., CFM
Professional Engineering Services
580-467-8130
rscottv11@gmail.com

August 24, 2024

Chickasha Municipal Authority
Mr. Jim Crosby
Public Works Director
117 North 4th Street
Chickasha, Oklahoma 73018

RE: RFP CMA-2403
SANITARY SEWER MAIN REPLACEMENT
CHICKASHA, OK

Dear Sir:

After carefully reviewing the bids submitted on August 22, 2024 for the referenced project, I find that the lowest responsive bid for this project was submitted by LeeTech Services, LLC of Tuscola, Texas. Please refer to the attached Bid Tabulations for more information.

As you know, the need for this project was prompted by a failure in the existing sanitary sewer main along the south side of Colorado Avenue between 4th Street and 5th Street.

Since the sanitary sewer mains in this area have previously experienced failures requiring major efforts to repair, the proposed method of replacement in this case is to use trenchless technology known as pipe-bursting. This process involves 1) dewatering an entry pit and an exit pit, 2) bypass pumping wastewater flow to another nearby sanitary sewer main and 3) inserting a new high density polyethylene (HDPE) pipe inside the existing pipe. The existing pipe will be burst using a pulling head as the new pipe is inserted. The new pipe will have the same inside diameter as the existing pipe. The project also calls for installing one new manhole west of 4th Street and provides for a second manhole to replace the existing manhole at 5th Street if necessary. Pay items have been included for pavement repair and grass replacement.

According to their web page, LeeTech Services, LLC has 25 years of experience specializing in pipe-bursting and municipal utility construction. It is my recommendation that the Chickasha Municipal Authority award a contract to LeeTech Services, LLC for CMA-2403 Sanitary Sewer Main Replacement in the amount of \$164,537.00.

If you have any questions, or require additional information, please do not hesitate to call me.

Sincerely,

R. Scott Vaughn, P.E., CFM

Enclosures
Cc: File

CHICKASHA MUNICIPAL AUTHORITY
RFP CMA-2403
SANITARY SEWER MAIN REPLACEMENT

BID TABULATION SUMMARY

DATE/TIME OF BID OPENING 8/22/2024 1:30 p.m.

COMPANY NAME	BASE BID	AFFIDAVIT OF NON-COLL.	BUS. REL. AFFIDAVIT	BID BOND
LEETECH SERVICES	\$164,537.00	YES	YES	YES
MATTHEWS TRENCHING	\$239,500.00	YES	YES	YES
ENGINEER ESTIMATE	\$377,685.00	N/A	N/A	N/A



CHISHOLM TRAIL CONSULTING, LLC

CHICKASHA MUNICIPAL AUTHORITY
RFP CMA-2403
SANITARY SEWER MAIN REPLACEMENT

BID TABULATION SUMMARY

Bid Opening Date and Time		8/22/2024	1:30 p.m.						
				LeeTech		Matthews Trenching		Engineer Estimate	
ITEM NO.	LOCATION NUMBER	UNITS	EST QTY	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
615	PIPE-BURSTING	LF	360	\$ 120.00	\$ 43,200.00	\$ 100.00	\$ 36,000.00	\$ 200.00	\$ 72,000.00
618	SEWER FLOW CONTROL	LSUM	1	\$ 4,000.00	\$ 4,000.00	\$ 30,000.00	\$ 30,000.00	\$ 50,000.00	\$ 50,000.00
624	TELEVISION INSPECTION	LF	890	\$ 3.00	\$ 2,670.00	\$ 5.00	\$ 4,450.00	\$ 30.00	\$ 26,700.00
625	SEWER PIPE LEAKAGE TESTING	L.SUM	1	\$ 1,800.00	\$ 1,800.00	\$ 2,500.00	\$ 2,500.00	\$ 7,500.00	\$ 7,500.00
626	SANITARY SEWER MANHOLES, INSTALLED	EA	2	\$ 11,000.00	\$ 22,000.00	\$ 5,000.00	\$ 10,000.00	\$ 25,000.00	\$ 50,000.00
651	HDPE PIPE (12-INCH), INSTALLED	LF	360	\$ 120.00	\$ 43,200.00	\$ 200.00	\$ 72,000.00	\$ 200.00	\$ 72,000.00
1	DE-WATERING	LSUM	1	\$ 3,000.00	\$ 3,000.00	\$ 40,000.00	\$ 40,000.00	\$ 75,000.00	\$ 75,000.00
2	4" CONCRETE SIDEWALK REPLACEMENT	SY	56	\$ 240.00	\$ 13,440.00	\$ 165.00	\$ 9,240.00	\$ 100.00	\$ 5,600.00
3	CONCRETE DRIVEWAY REPLACEMENT	SY	90	\$ 280.00	\$ 25,200.00	\$ 315.00	\$ 28,350.00	\$ 150.00	\$ 13,500.00
4	TACTILE WARNING DEVICE REPLACEMENT	SF	44	\$ 58.00	\$ 2,552.00	\$ 95.00	\$ 4,180.00	\$ 75.00	\$ 3,300.00
5	SOLID SLAB SODDING, INSTALLED	SY	278	\$ 12.50	\$ 3,475.00	\$ 10.00	\$ 2,780.00	\$ 7.50	\$ 2,085.00
TOTAL BID				\$ 164,537.00		\$ 239,500.00		\$ 377,685.00	



CHICKASHA



Meeting Type: CMA Agenda 9-3-2024

Meeting Date: 9/3/2024

Department: Public Works

Agenda Item No. 4.b.

AGENDA ITEM: Discussion, consideration, and possible action to authorize Staff to solicit bids for CMA-2401 - Water Main Construction - Ada Sipuel Avenue at Union Pacific Railroad.

I. BACKGROUND/DESCRIPTION:

II. RECOMMENDED ACTION:

Authorize Staff to solicit bids for CMA-2401 - Water Main Construction - Ada Sipuel Avenue at Union Pacific Railroad.

III. FISCAL INFORMATION -

IV. FUND INFORMATION:

Dept. Director:

Jim Crosby, Public Works Director

	Fund	Account	Amount
	(To)		
	FUND	ACCOUNT	AMOUNT
Meeting Date:	(From)		
September 3, 2024			

V. ATTACHMENTS:

1. CMA-2401 WATER MAIN CONSTR CDs FINAL 24.08.24
2. CMA-2401 ADA SIPUEL.RR WL DWGS FINAL 24.06.27R1



**RFP CMA-2401
WATER MAIN CONSTRUCTION
ADA SIPUEL AVENUE AT UNION PACIFIC RAILROAD**

CHICKASHA MUNICIPAL AUTHORITY

CHICKASHA, OKLAHOMA

SPECIFICATIONS & CONTRACT DOCUMENTS

Prepared by:



CHISHOLM TRAIL CONSULTING, LLC

CA 7771
2124 Scott Lane
Duncan, Ok 73533
580-467-8130
rscottv11@gmail.com



Randall Scott Vaughn, OK P.E., 15194

August 24, 2024
Date

**RFP CMA-2401
WATER MAIN CONSTRUCTION
ADA SIPUEL AVENUE AT UNION PACIFIC RAILROAD**

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE #</u>
Request for Proposals.....	3
Bid Proposal and Required Affidavits.....	4-7
Agreement.....	8-10
Required Bonds.....	11-14
Instructions to Bidders.....	15
Project Requirements.....	16-17
 <u>GENERAL PROVISIONS</u>	
101 DEFINITION OF TERMS.....	1
102 PROPOSAL REQUIREMENTS AND CONDITIONS.....	5
103 AWARD AND EXECUTION OF CONTRACT.....	8
104 SCOPE OF WORK.....	11
105 CONTROL OF THE WORK AND MATERIALS.....	12
106 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC.....	17
107 PROSECUTION AND PROGRESS.....	24
108 MEASUREMENT AND PAYMENT.....	29
 <u>TECHNICAL PROVISIONS</u>	 61 PAGES
 <u>SPECIAL PROVISIONS</u>	 28 PAGES
 <u>DRAWINGS</u>	 SEPARATE

Request for Proposals – RFP CMA-2401
Water Main Construction
Ada Sipuel Avenue at Union Pacific Railroad

Advertise Dates: **Thursday, September 12, 2024**
Thursday, September 19, 2024

The Chickasha Municipal Authority, Chickasha, Oklahoma, is accepting sealed proposals for the **RFP CMA-2401 Water Main Construction Project, Ada Sipuel Avenue at Union Pacific Railroad**.

The project consists of installing a new water main by trenching, dry boring and casing, and associated elements on Ada Sipuel Avenue at the Union Pacific Railroad in Chickasha, Oklahoma.

Bids shall be made in accordance with this Invitation for Bids and the Bidding Documents.

There will be a **mandatory** Pre-Bid meeting on Wednesday, October 2, 2024 at 1:30 p.m. at the Public Works Building, 502 North Genevieve, Chickasha, Oklahoma, 73018.

Sealed proposals shall be addressed to Jim Crosby, Public Works Director, Chickasha Municipal Authority, 117 North 4th Street, Chickasha, Oklahoma 73018, and shall be labeled “RFP CMA-2401, DO NOT OPEN” and “Water Main Construction Project, Ada Sipuel Avenue at Union Pacific Railroad.” Proposals shall be submitted no later than 1:30 p.m., local time on **October 10, 2024**. It is the sole responsibility of the proponent to ensure that this proposal is actually in the City Hall of the City of Chickasha prior to the expiration of the time and date stated above. Bids will be opened in the City Conference Room, Second Floor – City Hall, 117 N. 4th Street, Chickasha, Oklahoma 73018.

The Issuing Office for the Bidding Documents is: Chickasha Municipal Authority. Technical questions should be emailed to Jim Crosby, Public Works Director, at jim.crosby@chickasha.org or by calling 405.222.6086. Bidding Documents also may be examined at: City of Chickasha Website <http://www.chickasha.org/Bids.aspx>. Bid documents must be obtained by accessing the project on QUESTCDN.com, linked to the previously listed page.

Upon consideration of the proposal, the Chickasha Municipal Authority reserves the right to accept or reject any and all proposals, to waive technicalities and to make any investigation deemed necessary concerning the proponent’s ability to provide the services as covered by the specifications, and to accept what in their judgment is the most advantageous proposal.

Due to the type of project this is, the contractor will not be able to use tax exempt purchases on this project.

Keith Johnson
Keith Johnson, General Manager

C E R T I F I C A T I O N

I certify that the above “Request for Proposal” was posted on the bulletin board of City Hall, City of Chickasha, Oklahoma, on the _____ day of _____, 2024.
Susan McDaniel, City Clerk



117 North 4th Street
Chickasha, Ok 73018

BID PROPOSAL
WATER MAIN CONSTRUCTION
ADA SIPUEL AVENUE AT UNION PACIFIC
RAILROAD

Submission Deadline October 10, 2024
1:30 p.m.

Proposal of _____
(hereinafter called "Bidder"), organized and existing under the laws of the
State of _____, doing business as _____
to the Chickasha Municipal Authority (hereinafter call "Owner").

In compliance with your Advertisement for Bids, Bidder hereby proposes to perform all
work for the construction of RFP CMA-2401 Water Main Construction Project, Ada
Sipuel Avenue at Union Pacific Railroad, in Chickasha, Ok in strict accordance with
the contract documents within the time set forth therein and at the prices stated on
the Bid Schedule.

TOTAL BID (WORDS) _____

Bidder: _____ By: _____

Name of Company

Signature & Title

Mailing Address: _____

Phone No

Fax No

Email

SUBSCRIBED AND SWORN TO BEFORE ME THIS ____ DAY OF _____ 20____.

MY COMMISSION EXPIRES:

NOTARY PUBLIC

BID SCHEDULE

ADA SPUER AVENUE AT UNION PACIFIC RAILROAD CROSSING					
PAY ITEM	PAY ITEM DESCRIPTION	UNITS	EST QTY	UNIT PRICE	TOTAL PRICE
1	16" DIP WATER MAIN, TRENCHED UNCAS	LF	495	\$	\$
2	16" DIP WATER MAIN, INSTALLED IN CASING	LF	220	\$	\$
3	24" DIA. 7/16" WALL THICKNESS CASING INSTALLED	LF	220	\$	\$
4	16" X 16" MJ TEE, INSTALLED	EA	1	\$	\$
5	16" X 22.5° MJ BEND, INSTALLED	EA	1	\$	\$
6	16" X 11.25° MJ BEND, INSTALLED	EA	4	\$	\$
7	16" MJ GATE VALVE W/ BOX, INSTALLED	EA	4	\$	\$
8	16" X 6" MJ TEE, INSTALLED	EA	2	\$	\$
9	16" MJ PLUG, INSTALLED	EA	1	\$	\$
10	6" X 6" MJ TEE, INSTALLED	EA	1	\$	\$
11	6" DIP WATER MAIN, INSTALLED	LF	70	\$	\$
12	6" MJ GATE VALVE, INSTALLED	EA	3	\$	\$
13	FIRE HYDRANT ASSY (6'-0" BURY) INSTALLED	EA	1	\$	\$
14	6" PRESSURE REDUCING VALVE, INSTALLED	EA	1	\$	\$
15	6" MJ X FL GATE VALVE, INSTALLED	EA	2	\$	\$
16	6" FLANGED PIPE, 6" LONG, INSTALLED	EA	2	\$	\$
17	PRV VAULT, INSTALLED	EA	1	\$	\$
18	2-INCH BLOW-OFF, INSTALLED	EA	1	\$	\$
19	DISINFECTION	LSUM	1	\$	\$
20	HYDROSTATIC PRESSURE TESTING	LSUM	1	\$	\$
21	FENCE REMOVAL AND REPLACEMENT	LF	220	\$	\$
22	PAVEMENT REMOVAL AND REPLACEMENT	SY	28	\$	\$
23	CURB AND GUTTER REMOVAL AND REPLACEMENT	LF	20	\$	\$
24	CONSTRUCTION TRAFFIC CONTROL	LSUM	1	\$	\$
25	RAILROAD FLAGGING	LSUM	1	\$	\$
26	RAILROAD OBSERVATION	LSUM	1	\$	\$
27	RAILROAD SAFETY	LSUM	1	\$	\$
28	INSURANCE	LSUM	1	\$	\$

TOTAL BID (NUMBERS) \$ _____

AFFIDAVIT OF NON-COLLUSION

STATE OF _____)
COUNTY OF _____) ss

The undersigned, of lawful age, being first sworn, on oath says that (s)he is the agent authorized by the bidder to submit the attached bid. Affiant further states that the bidder has not been a party to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding; or with any City official or employee as to quantity, quality or price in the prospective contract, or any other terms of said prospective contract; or in any discussions between bidders and any City official concerning exchange of money or other thing of value for special consideration in the letting of a contract; that the bidder has not paid, given or donated or agreed to pay, give or donate to any officer or employee of the Chickasha Municipal Authority, Oklahoma, any money or other thing of value, either directly or indirectly, in the procuring of the award of a contract pursuant to this bid.

Bidder: _____ By: _____
Name of Company Signature & Title

Mailing Address: _____

Phone No: _____ Fax No: _____ Email: _____

SUBSCRIBED AND SWORN TO BEFORE ME THIS _____ DAY _____ OF 201_.

MY COMMISSION EXPIRES:

NOTARY PUBLIC:

BUSINESS RELATIONSHIPS AFFIDAVIT

STATE OF _____)
COUNTY OF _____) ss

_____, of lawful age, being first duly sworn, on oath says that (s)he is the agent authorized by the bidder to submit the attached bid. Affiant further states that the nature of any partnership, joint venture, or other business relationship presently in effect or which existed within one (1) year prior to the date of this statement with the architect, engineer, or other party to the project is as follows:

Affiant further states that any such business relationship presently in effect or which existed within one (1) year prior to the date of this statement between any officer or director of the bidding company and any officer or director of the architectural or engineering firm or other party to the project is as follows:

Affiant further states that the names of all persons having any such business relationships and the positions they hold with their respective companies or firms are as follows:

(If none of the business relationships hereinabove mentioned exist, affiant should so state.)

Firm Agent

Address _____

Phone Fax Email

SUBSCRIBED AND SWORN TO BEFORE ME THIS _____ DAY _____ OF 20 ____.

MY COMMISSION EXPIRES:

NOTARY PUBLIC

AGREEMENT
(CONTRACT)

Chickasha Municipal Authority
RFP CMA-2401
WATER MAIN CONSTRUCTION
ADA SIPUEL AVENUE AT UNION PACIFIC RAILROAD

THIS AGREEMENT is dated as of the ____ day of _____, in the year of 20__, by and between the CHICKASHA MUNICIPAL AUTHORITY, hereinafter referred to as OWNER, and _____ hereinafter referred to as the CONTRACTOR.

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK

CONTRACTOR shall complete all work as specified or indicated in the contract documents. The work is generally described as follows:

RFP CMA-2401 WATER MAIN CONSTRUCTION, ADA SIPUEL AVENUE AT UNION PACIFIC RAILROAD

ARTICLE 2. CONTRACT TIME

2.1 The work will be completed in 90 Calendar Days after the effective date of the Notice to Proceed.

2.2 Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this agreement and that OWNER will suffer financial loss if the work is not substantially complete within the time specified in 2.1 above, plus any extensions thereof allowed. They also recognize the delays, expense and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by OWNER if the work is not substantially completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER Five Hundred Dollars (\$500.00) for each day that expires after the time specified in paragraph 2.1 for substantial completion until the work is substantially complete.

ARTICLE 3. CONTRACT PRICE

3.1 OWNER shall pay CONTRACTOR for performance of the work in accordance with the contract documents in current funds as follows:

_____ Dollars.
(\$ _____)

ARTICLE 4. PAYMENT PROCEDURES

4.1 CONTRACTOR may submit an invoice or application for payment on a monthly basis at any time prior to completion of the work. All payments made by the Owner are subject to procedures established by the Owner to authorize payment at its regularly scheduled meetings. The Owner regularly scheduled meetings are held on the 1st and 3rd Monday of each month.

Invoice or application for payment must be received in the Public Works Department office no less than fifteen (15) business days prior to the regular meeting at which authorization for payment is to be requested.

4.2 Final Payment. Upon final completion and acceptance of the work, including all submittals, OWNER shall pay the remainder of the contract price, subject to the procedures noted in paragraph 4.1 above.

ARTICLE 5. CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this agreement, CONTRACTOR makes the following representations:

5.1 CONTRACTOR has familiarized himself with the nature and extent of the contract documents, and the written resolution thereof by the Owner is acceptable to CONTRACTOR.

5.2 CONTRACTOR has given the Owner written notice of all conflicts, errors, discrepancies or omissions that he has discovered in the contract documents, and the written resolution thereof by the Owner is acceptable to CONTRACTOR.

ARTICLE 6. CONTRACT DOCUMENTS

The contract documents which comprise the entire agreement between OWNER and CONTRACTOR are attached to this agreement, made a part hereof, and consists of the following:

- 6.1 This agreement (pages 1 to 3 inclusive).
- 6.2 Exhibits to this agreement (pages ____to____inclusive).
- 6.3 Performance and other bonds, consisting of _____pages.
- 6.4 Notice of Award.
- 6.5 Specifications bearing the title: **RFP CMA-2401 WATER MAIN CONSTRUCTION, ADA SIPUEL AVENUE AT UNION PACIFIC RAILROAD.**
- 6.6 Addenda numbers____to____, inclusive.
- 6.7 CONTRACTOR'S bid (pages _____to _____, inclusive).
- 6.8 Documentation submitted by CONTRACTOR prior to Notice of Award (pages 1 to _____ inclusive).
- 6.9 Any modification, including change orders, duly delivered after execution of agreement.

There are no contract documents other than those listed above in Article 6.

The contract documents may only be altered, amended, or repealed by written and approved change order.

ARTICLE 7. MISCELLANEOUS

7.1 No assignment by a party hereto of any rights under or interests in the contract documents will be binding on another party hereto without written consent of the party sought to be bound; and specifically but without limitations, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment. No assignment will release or discharge the assignor from any duty or responsibility under the contract documents.

7.2 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns, and legal representatives to the other party hereto, his partners, successors, assigns, and legal representatives in respect to all covenants, agreements and obligations contained in the contract documents.

IN WITNESS WHEREOF, the parties hereto have signed this agreement in duplicate. One counterpart has been delivered to OWNER and CONTRACTOR. All portions of the contract documents have been signed or identified by OWNER and CONTRACTOR.

This agreement will be effective the _____ day of _____ 20__.

OWNER:
CHICKASHA MUNICIPAL AUTHORITY

CONTRACTOR:

By: _____
Chairman

By: _____
Signature & Title

CORPORATE SEAL
Attest:

CORPORATE SEAL
Attest:

By: _____

By: _____

ADDRESS FOR GIVING NOTICES:

ADDRESS FOR GIVING NOTICES:

Chickasha Municipal Authority

ATTN: General Manager

117 North 4th Street

Chickasha, OK 73018

Phone: 405-222-6086

Phone: _____

Fax: 405-222-6084

Fax: _____

keith.johnson@chickasha.org

Email: _____

STATUTORY BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, as Principal, and
_____, as Surety, are
held firmly bound unto the Chickasha Municipal Authority in the sum of

DOLLARS (\$ _____), for the payment of which, well and truly to be made, we, and each
of us, bind ourselves, our heirs, executors and assigns, themselves, and its successors and assigns, jointly
and severally, firmly by these presents.

Dated this _____ day of _____, 20__.

The conditions of this obligation are such, that whereas, the above Bonded Principal
_____ is the lowest and best bidder for the making of the following work
and improvements, viz:

RFP CMA-2401 Water Main Construction Project, Ada Sipuel Avenue at Union Pacific Railroad in
Chickasha, Oklahoma (Project)

and has entered into a certain written contract with the Chickasha Municipal Authority on the _____
day of _____, 20__, for the construction of said work and improvement, in exact accordance with
the bid of said Principal, and according to certain specifications heretofore made, adopted and placed on
file in the office of the City Clerk of the City of Chickasha.

NOW, THEREFORE, if said principal shall fail or neglect to pay all indebtedness incurred by said
Principal or subcontractor of said Principal who perform work in the performance of such, for labor and
materials furnished by any supplier and consumed in the performance of said contract, and such repairs to
and rental of machinery and equipment as may be furnished by a subcontractor to the person or persons
contracting with this Owner within thirty (30) days after the same becomes due and payable, the person,
firm or corporation entitled thereto may sue and recover on this bond, the amount so due and unpaid.

It is further expressly agreed and understood by the parties hereto that no changes or alterations in said
Contract and no deviations from the plan or mode of procedure herein fixed shall have the effect of
releasing the sureties, or any of them, for the obligations of this Bond.

IN WITNESS WHEREOF, the said Principal has caused these presents to be executed in its name and its
corporate seal to be hereunto affixed by its duly authorized officers, and the said Surety has caused these
presents to be executed in its name and its corporate seal to be hereunto affixed by its attorney—in—fact,
duly authorized so to do, the day and year first above written.

ATTEST:

Secretary

Principal

By: _____

Surety

By: _____

ATTEST:

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS THAT:

_____, as Principal,
and _____, a corporation
organized under the laws of the State of _____, as Surety, are held and firmly bound unto
the Chickasha Municipal Authority, in the penal sum of
Dollars (\$_____) in lawful money of the United States of America, for the payment
of which, well and truly to be made, we bind ourselves and each of us, our heirs, executors,
administrators, trustees, successors, and assigns, jointly and severally, firmly by these presents.

The condition of this obligation is such that WHEREAS, said Principal entered into a written contract
with the Chickasha Municipal Authority, dated _____, 20__, for the RFP CMA-2401 Water
Main Construction Project, Ada Sipuel Avenue at Union Pacific Railroad in Chickasha, Oklahoma
(PROJECT) all in compliance with the specifications therefore, made a part of said Contract and on file in
the office of the City Clerk, City of Chickasha, Oklahoma.

NOW THEREFORE, if said Principal shall, in all particulars, well, truly and faithfully perform and abide
by said Contract and each and every covenant, condition, and part thereof, and shall fulfill all obligations
resting upon said Principal by the terms of said Contract and said specifications, and if said Principal shall
protect and save harmless said Chickasha Municipal Authority from any pecuniary loss resulting from
the reach of any of the items, covenants and conditions of said Contract resting upon said Principal, then
this obligation shall be null and void, otherwise to be and retain in full force and effect.

It is further expressly agreed and understood by the parties hereto that no changes or alternations in said
Contract and no deviations from the plan or mode of procedure herein fixed shall have the effect of
releasing the Sureties, or any of them, from the obligations of this Bond.

IN WITNESS WHEREOF, the said Principal has caused these presents to be executed in its name and its
corporate seal to be hereunto affixed by its duly authorized officers, and the said Surety has caused these
presents to be executed in its name and its corporate seal to be hereunto affixed by its attorney-in-fact,
duly authorized so to do, the day and year set forth below.

Dated this _____ day of _____, 20__.

Principal

ATTEST:

Secretary

By: _____

Surety

ATTEST:

By: _____

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____ as Principal,
and _____, as Surety, are
held and firmly bound into the CHICKASHA MUNICIPAL AUTHORITY, a Municipal Trust in
the State of Oklahoma, in the full and just sum of

_____ DOLLARS
(\$ _____) such sum being equal to the contract price for the payment of
which, well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, and
assigns, themselves, and its successors and assigns, jointly and severally, firmly by these
presents.

The conditions of this obligation are such, that whereas, said Principal, has by certain contract
between _____ and the CHICKASHA
MUNICIPAL AUTHORITY dated this _____ day of _____ 20____, agreed
to perform for the Chickasha Municipal Authority, RFP CMA-2401 Water Main Construction
Project, Ada Sipuel Avenue at Union Pacific Railroad in compliance with the specifications
therefore, made part of said contract and on file in the office of the City Clerk of the City of
Chickasha; and to maintain the said improvement in the amounts set forth above against any
failure due to workmanship or material for a period of ONE year from the date of acceptance of
the work by the Chickasha Municipal Authority.

NOW THEREFORE, if said Principal shall pay or cause to be paid to the Chickasha Municipal
Authority all damages, loss and expense, which may result by reason of defective materials
and/or workmanship in connection with said work, occurring within a period of ONE year from
and after acceptance of said project by the OWNER; and if Principal shall save and hold
harmless the OWNER from all damages, loss and expense occasioned by or resulting from any
failure whatsoever of said Principal, then this obligation shall be null and void, otherwise to be
and remain in full force and effect.

It is further agreed that if the said Principal or Surety herein shall fail to maintain said
improvements against any failure due to defective workmanship and/or material for a period of
ONE year and at any time repairs shall be necessary, that the cost of making said repairs shall be
determined by the Chickasha Municipal Authority or some person(s) designated by them to
ascertain the same; and if, upon thirty (30) days' notice, the said amount ascertained shall not be
paid by the Principal or Surety herein, or if the necessary repairs are not made, that said amount
shall become due upon the expiration of thirty (30) days and suit may be maintained to recover
the amount so determined in any court of competent jurisdiction; and that the amount so
determined shall be conclusive upon the parties as to the amount due on this bond for the
repair(s) included therein, and that the cost of all repairs shall be so determined from time-to-
time during the life of this bond as the conditions of the improvements may require.

It is further expressly agreed and understood by the parties hereto that no changes or alterations
in said contract and no deviations from the plan or mode of procedure herein fixed shall have the
effect of releasing the sureties, or any of them, from the obligations of this bond.

IN WITNESS WHEREOF, the said Principal has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its duly authorized officers; and the said Surety has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its attorney-in-fact, duly authorized so to do, the day and year first above written.

ATTEST:

Principal

Secretary

By: _____

Surety

ATTEST:

By: _____

Chickasha Municipal Authority
RFP CMA-2401
WATER MAIN CONSTRUCTION
ADA SIPUEL AVENUE AT UNION PACIFIC RAILROAD

INSTRUCTIONS TO BIDDERS

1. Bid documents and copies of specifications shall be obtained from QUESTCDN.com. Bid documents, plans, and specifications may be examined at the City Clerk's Office or at the Public Works Department Complex, 502 N. Genevieve, Chickasha, Oklahoma 73018.
2. Bidders assume full responsibility for ensuring they have obtained all contract documents, including but not limited to: Bid Proposal forms, affidavits, Specifications, Drawings and Addenda. By submitting a bid for this project, Bidder thereby agrees that he/she has obtained all required documents prior to submitting said bid.
3. Hard copy bidding documents may be obtained from the Engineer for a non-refundable fee of \$100 per set.
4. A cashier's check or a certified check on a solvent bank in Oklahoma or a bid bond in the amount of five percent (5%) of the bid shall accompany the proposal of each bidder. The check or bond shall be made payable to the Owner. All checks or bonds will be returned to unsuccessful bidders. This check or bond shall be as a guarantee of contractor's ability to perform the contract bid upon, and that he will enter into a written contract with the Owner to perform said work and/or furnish said materials in accordance with said specifications and furnish the required bonds within ten (10) business days after the acceptance of his bid. No bidder may withdraw his bid for a period of sixty (60) days after the closing date for the receipt of bids.
5. In accordance with Oklahoma statutes, any bid must be accompanied by a Non-Collusion Affidavit and a Business Relations Affidavit. All bidders shall use the enclosed forms to satisfy this requirement.
6. Any bids received after the closing time will be returned unopened. Minority and small business owners are encouraged to submit proposals.
7. A Maintenance Bond guaranteeing the repair of all damage due to improper materials or workmanship for a period of one (1) year after the acceptance of the work by the Owner will be required.
8. A Performance Bond and a Statutory Payment Bond in the amount of 100% of the contract price each with a Corporate Surety licensed in Oklahoma and approved by the Owner will be required for the faithful performance of the contract, and the bidder shall state in the proposal the name and address of the Surety or Sureties who will sign this bond in case the contract is awarded to him. Copies of required bond forms are included in the bid packet.
9. **Attendance at the Pre-Bid Conference is MANDATORY. Bids will not be accepted from firms who do not have a representative attending the Pre-Bid Conference. No plans, specifications or bid documents will be issued after the Pre-Bid Conference. All bidders must visit and inspect the construction sites and shall be familiar with the physical characteristics and conditions at the construction sites prior to submitting a bid.**

RFP CMA-2401
WATER MAIN CONSTRUCTION
ADA SIPUEL AVENUE AT UNION PACIFIC RAILROAD

PROJECT REQUIREMENTS

1. GENERAL CONDITIONS

- 1.1. Proposal is to perform construction of Water Mains as described below and elsewhere herein on Ada Sipuel Avenue at Union Pacific Railroad in Chickasha, Oklahoma.
- 1.2. Quoted prices shall remain valid for not less than 60-days.
- 1.3. The prices bid shall be for completed work as specified herein. Details necessary for completed work not listed herein shall be considered incidental to the work and will not be paid for separately.
- 1.4. The Chickasha Municipal Authority reserves the right to reject any and all bids.
- 1.5. Oklahoma Department of Environmental Quality rules and regulations, City of Chickasha/ Chickasha Municipal Authority standards and specifications and Union Pacific Railroad Permit requirements shall govern the work.
- 1.6. The Owner reserves the right to consider alternative proposals submitted in writing by Bidders or by the Contractor.
- 1.7. Refer to the Drawings for additional information.
- 1.8. Contractor shall be responsible for Quality Control of all products and the work.
- 1.9. The work shall proceed continuously from Notice to Proceed until Final Completion.
- 1.10. Contractor shall perform all work consistent with Union Pacific Railroad, MUTCD and OSHA regulations and requirements.
- 1.11. Dimensions and distances provided are approximate. Contractor shall verify dimensions in the field before ordering materials.
- 1.12. Contractor shall participate in a pre-construction conference with the Owner before beginning work.
- 1.13. All materials shall be new and shall be of standard production as offered by the manufacturer, unless otherwise approved by the Owner.
- 1.14. Contractor shall submit two hard copies of materials submittals for review and acceptance by the Owner prior to ordering materials.
- 1.15. All work shall comply with the applicable Rules, Codes and Standards listed in these Specifications, and all Federal, State and Local codes and ordinances, as well as any other authorities that may have lawful jurisdiction pertaining to the work specified. None of the terms or provisions of this specification shall be construed as waiving any of the rules, regulations or requirements of these authorities. The contractor shall procure all necessary permits or licenses to carry out his work.
- 1.16. In any instance where these specifications call for materials for construction of a better quality or larger capacity than required by the codes, the provisions of these specifications shall take precedence. The codes shall govern in other cases of direct conflict between the codes and the specifications.
- 1.17. Purchases of materials for this project shall not be exempt from Sales taxes and use taxes.

2. SEQUENCE OF CONSTRUCTION

- 2.1. Contractor shall provide written notice to the Chickasha Municipal Authority two weeks in advance of starting work.
- 2.2. All work shall be complete within 90 Calendar Days after issuance of the Notice to Proceed.
- 2.3. OWNER and CONTRACTOR recognize that time is of the essence of this agreement and that OWNER will suffer financial loss if the work is not substantially complete within the time specified in 2.1 above, plus any extensions thereof allowed. They also recognize the delays, expense and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by OWNER if the work is not substantially completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER Five Hundred Dollars (\$500.00) for each day that expires after the time specified in paragraph II.B above for substantial completion until the work is substantially complete.
- 2.4. Refer to the Drawings for additional information regarding road closings and construction traffic control.



Chickasha Municipal Authority, Oklahoma

RFP CMA-2401 GENERAL PROVISIONS

SECTION 101 DEFINITION OF TERMS

Wherever the words, forms or phrases herein defined, or pronouns used in their stead occur in these specifications, in the contract or in the advertisement or any document or instrument herein contemplated or to which these specifications apply, the intent and meaning shall be interpreted as follows:

ADVERTISEMENT - All of the legal publications pertaining to the work contemplated or under contract.

ATTORNEY - The Attorney of the City of Chickasha/Chickasha Municipal Authority or the duly authorized assistants or agents of the Attorney.

AWARD - The decision of the Owner to accept the proposal of the lowest and best bidder for the work, subject to the execution and approval of a satisfactory contract and the required bonds therefor, and to such other conditions as may be specified or otherwise required by law.

AUTHORITY - Chickasha Municipal Authority, acting through its duly authorized representatives or agents.

AUDITOR - The Auditor of the City of Chickasha/Chickasha Municipal Authority of Chickasha, Oklahoma or the duly authorized assistants or agents of the Auditor.

BIDDER - Any person or persons, partnership, company, firm or corporation acting directly or through a duly authorized representative, submitting a proposal for the work contemplated.

CHANGE ORDER - A written order issued by the Owner to the Contractor providing for additions, deletions or revisions to the Work, or for an adjustment in the Contract Price or the Contract Time.

CITY - City of Chickasha, a Municipal Corporation in the State of Oklahoma.

CLERK/TREASURER - The Clerk/Treasurer of the City of Chickasha or the duly authorized assistants or agents of the Clerk/Treasurer.

CONTRACT - The written agreement covering the performance of the work. The contract includes the Advertisement and Notice to Contractors, Proposal, Bonds, Specifications, including special Provisions, Plans, or working drawings and any supplemental agreement pertaining to the work or materials therefore.

CONTRACTOR - The person or persons, partnership, company, firm or corporation entering into contract for the execution of the work, acting directly or through a duly authorized representative.

CONTRACT TIME - The number of calendar days stated in the Agreement to achieve completion of the Contract so that it is ready for final acceptance and final payment. When a calendar date of completion is shown in a proposal, the Contract Time shall be the number of days between the effective date of the Notice to Proceed and the specified Completion Date.

ENGINEER - City Engineer, City of Chickasha/Chickasha Municipal Authority, Oklahoma or the duly authorized agents, engineers, assistants, inspectors or superintendents, acting singularly or severally within the scope of the particular duties entrusted to them.

EXTRA WORK - Any work performed by the Contractor not provided for by the plans, specifications or special provisions.

FURNISH - To supply.

CITY MANAGER/GENERAL MANAGER - The Manager of the City of Chickasha/Chickasha Municipal Authority of Chickasha, Oklahoma.

DIRECTOR OF PUBLIC WORKS - Director of Public Works of the City of Chickasha/Chickasha Municipal Authority, Oklahoma or the duly authorized agents, engineers, assistants, inspectors or superintendents, acting singularly or severally within the scope of the particular duties entrusted to them.

MAINTENANCE BOND - The approved form of security furnished by the Contractor and his Surety as a guarantee that he will maintain the work constructed by him in good condition for the period of time required.

OWNER - The City of Chickasha or Chickasha Municipal Authority, as listed in the Solicitation for Bids or Advertisement for Bids.

OWNER'S REPRESENTATIVE – The individual or company designated by the Owner to represent the Owner during the execution of the work with a duty to protect the Owner's interests in the work.

PERFORMANCE BOND - The approved form of security furnished by the Contractor and his Surety as a guarantee of good faith on the part of the Contractor to execute the work in accordance with the plans, specifications and terms of the contract.

PLAN OR PLANS - All of the drawings pertaining to the contract and made a part thereof, including such supplemental drawings as the Owner may issue from time to time, in order to clarify or explain other drawings or for the purpose of showing changes in the work as authorized under the Section, "Changes and Alterations", or for showing details not shown thereon.

PROPOSAL – The written statement or statements duly filed with the Clerk/Treasure of the person or persons, partnership, company, firm or corporation proposing to do the work contemplated.

PROPOSAL FORM - The approved form on which the formal bids for the work are to be prepared and submitted.

PROPOSAL GUARANTY - The security, designated in the “proposal form” and in the Advertisement, to be furnished by the bidder as a guarantee of good faith to enter into a contract with the Owner and to execute the required bonds for the work contemplated after the work is awarded to him and as liquidated damages in event of failure to do so.

PROVIDE - To furnish and construct, erect or install.

SPECIAL PROVISIONS - The special clauses setting forth conditions or requirements peculiar to the specific project involved, supplementing the Standard Specifications and taking precedent over any conditions or requirements of the Standard Specifications with which they are in conflict.

SPECIFICATIONS - The directions, provisions, and requirements contained herein, together with the “Special Provisions” supplemental hereto, pertaining to the method and manner of performing the work or to the kinds, quantities or qualities of materials to be furnished under the contract, and methods of measurement and basis of payment.

The Standard Specifications, referred to hereinafter, are the editions in effect on the date of the invitation for bids.

STATUTORY BOND - The approved form of Surety furnished by the Contractor and his Surety as a guarantee that he will pay, in full, all bills and accounts for material and labor used in the construction of the work, as provided by law.

SURETY OR SURETIES - The Corporate body which is bound by such bonds as are required with and for the Contractor, and engages to be responsible for the entire and satisfactory fulfillment of the contract and for any and all requirements as set out in the specifications, contract or plans.

THE WORK - All design and construction activities included within the scope of the plans and specifications, including the furnishing of labor, materials, tools, equipment and incidentals, to be performed by the Contractor and Consultant under the terms of the contract.

TREASURER – The Treasurer of the City of Chickasha/Chickasha Municipal Authority of Chickasha, Oklahoma, or the duly authorized assistants or agents of the Treasurer.

TRUSTEES - The Trustees of the Chickasha Municipal Authority.

A.A.N.	American Association of Nurserymen
A.A.R.	Association of American Railroads
A.A.S.H.T.O.	American Association of State Highway and Transportation Officials
A.G.C	Associated General Contractors of America
A.I.A.	American Institute of Architects
A.I.S.C.	American Institute of Steel Construction
A.N.S.I.	American National Standards Institute (United States of American Standards Institute)
A.R.A.	American Railway Association
A.R.E.A.	American Railway Engineering Association
A.S.A.	American Standards Association
A.S.C.E.	American Society of Civil Engineers
A.S.L.A.	American Society of Landscape Architects
A.S.T.M.	American Society for Testing Materials
A.W.P.A.	American Wood Preservers Association
A.W.S.	American Welding Society
A.W.W.A.	American Water Works Association
F.A.A.	Federal Aviation Agency of the U.S. Department of Transportation
F.H.W.A.	Federal Highway Association
F.R.A.	Federal Rail Administration
F.S.S.	Federal Specifications and Standards (General Services Administration)
FM	Factory Mutual
I.E.S.	Illuminating Engineering Society
I.M.S.A.	International Municipal Signal Association
I.T.E.	Institute of Traffic Engineers
M.U.T.C.D.	Manual on Uniform Traffic Control Devices
N.E.C.	National Electrical Code
N.E.M.A.	National Electrical Manufacturers Association
N.S.F.	National Sanitary Foundation
O.A.C.	Oklahoma Aeronautics Commission
O.D.E.Q.	Oklahoma Department of Environmental Quality
O.D.O.T.	Oklahoma Department of Transportation
O.S.D.H.	Oklahoma State Department of Health
O.S.H.A	Occupational Safety and Health Association
O.W.R.B.	Oklahoma Water Resources Board
S.A.E.	Society of Automotive Engineers
S.S.P.C.	Steel Structures Paint Council
U.L.	Underwriter's Laboratory

SECTION 102 PROPOSAL REQUIREMENTS AND CONDITIONS

102.01 CONTENTS OF PROPOSAL FORM. The Owner will furnish bidders with proposal forms which will state the general location and description of the contemplated work and which will contain a list of the items of work to be completed or materials to be furnished and upon which bid prices are requested. The proposal form will state the time limits for commencing and for completing the work and will provide for entering the amount of the proposal guaranty. The proposal form will contain a non-collusion affidavit.

102.02 INTERPRETATION OF PLANS AND SPECIFICATIONS. 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, he shall submit to the Owner a written request for an interpretation thereof. The person submitting such request will be responsible for its prompt delivery. An interpretation of the proposed documents will be made only by Addendum duly issued and a copy of such Addendum will be mailed or delivered to each person receiving a set of such documents. The Owner will not be responsible for any other explanations or interpretations of the proposed documents.

102.03 EXAMINATION OF DOCUMENTS AND SITE OF THE WORK. Bidders are advised that the plans and specifications on file with the Clerk/Treasurer shall constitute all the information which the Owner will furnish. No other information given by the Owner or any official thereof prior to the execution of the contract shall ever become a part of or change the contract, plans or specifications or be binding on the Owner. Bidders are required, prior to submitting any proposal, to read carefully the specifications, the proposal, contract and bond forms; to examine carefully all plans on file with the Clerk/Treasurer; to visit the site of the work; to examine carefully local conditions; to inform themselves by their independent research of the difficulties to be encountered and judge for themselves of the accessibility of the work and all attending circumstances affecting the cost of doing the work or the time required for its completion and obtain all information required to make an intelligent proposal. Bidders shall rely exclusively upon their own estimates, investigations and other data, which are necessary for full information upon which the proposal may be based. It is mutually agreed that submission of a proposal will be evidence that the bidder has made the examination and investigations required herein.

102.04 PREPARATION OF PROPOSAL. The bidder shall submit his proposal in single copy on the forms furnished by the Owner. All blank spaces in the proposal forms shall be correctly filled in and the bidder shall state the prices, written in ink, both in words and numerals, for which he proposes to do the work contemplated or furnish the materials required.

Such prices shall be written distinctly legible, in case of conflict between words and

numerals, the words will govern. If an individual submits the proposal, he must sign his name or his duly authorized agent and list his mailing address. If the proposal is submitted by a firm or partnership, the name and mailing address of the firm or partnership must be listed and the proposal signed by a member of the firm or partnership as a person duly authorized. If the proposal is made by a company or corporation, the company or corporate name and the state under the laws of which said company, or corporation is chartered and the business address must be listed and the proposal signed by an official or agent duly authorized. Powers of Attorney, authorizing agents or others to sign proposals must be properly certified and must be in writing on file with the Clerk/Treasurer.

102.05 NON-COLLUSION AFFIDAVIT. Each proposal or copy thereof shall be accompanied by a sworn statement in writing that the person signing the proposal executed said proposal on behalf of the bidder therein named and that he had lawful authority to do so and that said bidder has not directly or indirectly entered into any agreement, expressed or implied, with any other bidder or bidders having for its object the controlling of the amount of such bid or any bids, the limiting of the bid or bidders, the parceling or farming out to any bidder or bidders or other persons of any part of the contract or any bid or the subject matter of the bid or of the profits thereof, and that he had not and will not divulge said sealed bid to any person whatever except those having a partnership or other financial interest with him in said bid, until after the said sealed bids are opened.

102.06 PROPOSAL GUARANTY. Proposals will not be considered unless the original filed with the Clerk/Treasurer is accompanied by a certified or cashier's check, bank money order, or bidder's bond, in the required amount, made payable to the Owner. The proposal guaranty shall be in an amount of not less than five percent (5%) of the total amount of the bid unless otherwise provided in the Advertisement or Special Provisions. The proposal guaranty is required as evidence of good faith and as a guarantee that if awarded the contract, the bidder will execute the contract and furnish the required bonds within the required time and as liquidated damages in event of failure to do so.

102.07 FILING OF PROPOSALS. No proposals will be considered by the Owner unless they are filed in sealed envelopes with the Clerk/Treasurer in his office in the City Hall, Chickasha, Oklahoma, within the time limit for receiving proposals, as stated in the advertisement. Each proposal shall be plainly marked on the envelope with the word "Proposal", the name of the project, and the date and hour of opening.

102.08 WITHDRAWAL OF PROPOSALS. Permission will not be granted to withdraw or modify any proposal after it has been filed.

102.09 OPENING OF PROPOSALS. The proposals filed with the Clerk/Treasurer will be opened in public at the time and place stated in the advertisement.

Bidders are invited to attend the bid opening at the time and place set forth in the advertisement.

102.10 IRREGULAR PROPOSALS. Proposals may be considered irregular if they show any omissions, alterations of forms, additions or conditions not requested unauthorized alternate bids or irregularities of any kind. However, the Owner reserves the right to waive technicalities as to changes, alterations or reservations and make the award in the best interest of the Owner.

102.11 REJECTION OF PROPOSALS. The Owner reserves the right to reject any or all proposals, and all proposals submitted are subject to this reservation. Proposals may be rejected for any of the following specific reasons:

- (a) Proposal received after the time limit for receiving proposals as stated in the advertisement;
- (b) Proposal prices obviously unbalanced;
- (c) Summation of proposal prices on any one project above the Engineers estimate of cost for such project;
- (d) Proposal containing any irregularities.

102.12 DISQUALIFICATION OF BIDDERS. Bidders may be disqualified and their proposals not considered for any of the following specific reasons:

- (a) Where more than one proposal for an individual, firm, partnership or corporation is filed under the same or different names and where such proposals are not identical in every respect;
- (b) Reasonable grounds for believing that any bidder is interested in more than one proposal for the work contemplated or materials to be furnished;
- (c) Reason for believing that collusion exists among bidders;
- (d) The bidder being in arrears on any existing contracts, interested in any litigation against the Owner or having defaulted on a previous contract;
- (e) Incomplete work which, in the judgment of the Owner, will hinder or prevent the prompt completion of additional work, if awarded.

SECTION 103

AWARD AND EXECUTION OF CONTRACT

103.01 CONSIDERATION OF PROPOSALS. After the proposals are opened, those proposals containing unit prices will be tabulated for comparison on the basis of the quantities shown in the approximate estimate. Until the final award of the contract, the Owner reserves the right to reject any or all proposals, to waive technicalities and to advertise for new proposals or proceed to do the work otherwise when the best interests of the Owner will be promoted thereby.

Projects advertised as all parts tied: Bidder shall submit a bid for each part. Tied bid projects will be considered on the basis of the total dollar amount bid for all tied parts.

Projects advertised as parts not tied: Bidder may submit a bid for an individual part, or multiple parts, as either tied or separate. Bidder shall clearly indicate the intent of his bids. Bids submitted as tied bids will be considered on the basis of the total dollar amount bid for all tied parts. Bids submitted as separate parts may be considered on the basis of the dollar amount for each part, or the total dollar amount of any combination of parts, when it appears to be in the best interest of the Owner.

103.02 AWARD OF CONTRACT. The Owner reserves the right to withhold the award of the contract for a reasonable period of time from the date of opening the proposals and no award will be made until the necessary investigations are made as to the responsibility of the low bidder. The awarding of the contract shall give the bidder no right of action or claim against the Owner upon such contract until the execution of the contract shall have been completed and the contract delivered to the Contractor. The Owner reserves the right to award all or any portion or portions of the work.

103.03 RETURN OF PROPOSAL GUARANTY. As soon as the proposal prices have been compared, the Owner may, at its discretion, return the proposal guaranties accompanying proposals which in its judgment would not be considered in making the award.

103.04 SURETY BONDS. With the execution and delivery of the contract, the Contractor shall furnish and file with the Owner in the amounts herein required, the following surety bonds:

- (a) A good and sufficient Performance Bond in an amount equal to one hundred percent (100%) of the approximate total amount of the contract, guaranteeing the full and faithful execution of the work and performance of the contract and for the protection of the Owner and all property owners interested against any damage by reason of the negligence of the Contractor, or the improper execution of the work or the use of inferior materials;

- (b) A good and sufficient Statutory Payment Bond in an amount equal to one hundred percent (100%) of the approximate total amount of the contract, guaranteeing payment for all labor, materials and equipment used in the construction of the improvement.
- (c) A good and sufficient Maintenance Bond in an amount equal to one hundred percent (100%) of the contract price, conditioned for the maintenance in good condition of the improvement for a period of one (1) year from the time of acceptance by the Owner, or as otherwise specified in the Advertisement and Proposal.
- (d) No surety will be accepted who is now in default or delinquent on any bond or who is interested in any litigation against the Owner. AD bonds shall be made on forms acceptable to the Owner and shall be executed by surety companies licensed to do business in the State of Oklahoma and acceptable to the Owner. Each bond shall be executed by the Contractor and the Surety.

Should any surety on the contract be determined unsatisfactory at any time by the Owner, notice will be given to the Contractor to that effect and the Contractor shall forthwith substitute a new Surety or Sureties satisfactory to the Owner. No payment will be made under the contract until the new surety or sureties, as required, have qualified and been accepted by the Owner. The contract shall not be operative nor shall any payments be due until approval of the bonds has been made by the Owner.

103.05 EXECUTION OF CONTRACT. The person(s), partnership, company, firm or corporation to whom a contract is awarded shall within ten (10) business days after such award sign the necessary agreements entering into the required contract with the Owner and execute and deliver the required bonds.

No contract shall be binding on the Owner until it has been approved by the Attorney, executed by the Owner and delivered to the Contractor.

103.06 FAILURE TO EXECUTE CONTRACT. Upon failure of the bidder to execute the required bonds or to sign the required contract within ten (10) business days after the contract is awarded, he will be considered to have abandoned his proposal and the Owner may annul the award. By reason of the uncertainty of market prices of the materials and labor and it being impracticable and extremely difficult to fix the amount of damages to which the Owner would be put by reason of said bidder's failure to execute said bonds and contract within ten (10) business days, the proposal guaranty accompanying the proposal shall be the agreed amount of damages which the Owner will suffer by reason of such failure on the part of the bidder and shall thereupon be retained by the Owner as liquidated damages. The filing of a proposal will be considered as an acceptance of this provision.

103.07 PRE-WORK CONFERENCE. The Contractor and Consultant shall attend a Pre-Work Conference, scheduled by the Owner, to clarify the intent of the work and to present the Contractor's work plan, including progress schedule as provided by Section 107.04, prior to starting work on the project.

SECTION 104 SCOPE OF WORK

104.01 INTENT OF PLANS AND SPECIFICATIONS. The intent of the plans and specifications is to prescribe a complete work or improvement which the Contractor undertakes to provide, in full compliance with the plans, specifications, special provisions, proposal and contract. The Contractor shall provide all work as specified in the plans, special provisions, specifications, proposal and contract, except that specifically shown to be provided by the Owner or others, and shall provide such additional extra and incidental work as may be considered necessary to complete the work in a satisfactory and acceptable manner. He shall furnish all labor, materials, tools, equipment and incidentals necessary to the prosecution of the work.

104.02 SPECIAL PROVISIONS. Should any work or any conditions which are not thoroughly or satisfactorily stipulated or covered by the general or standard specifications be anticipated on any proposed work "Special Provisions" for such work may be prepared and shall be considered as a part of the specifications and contract.

104.03 INCREASED OR DECREASED QUANTITIES OF WORK. The Owner reserves the right to alter the quantities of the work to be performed or to extend or shorten the improvement any time when and as found necessary, by means of change orders, and the Contractor shall perform the work as altered, increased or decreased. No allowance will be made for any change in anticipated profits nor shall such changes be considered as waiving or invalidating any condition or provision of the contract.

104.04 ALTERATIONS OF PLANS AND SPECIFICATIONS. The Owner reserves the right to make such changes in the plans and in the character of the work as may be necessary or desirable to insure completion of the work in the most satisfactory manner, provided such changes do not materially alter the original plans and specifications or change the general nature of the work as a whole. Such changes shall not be considered as waiving or invalidating any condition or provision of the contract.

104.05 EXTRA WORK. When any work is necessary to the proper completion of the project for which no prices are provided in the proposal or contract, the Contractor shall do such work, but only when and as ordered in writing by the Owner and with the prior approval of the Owner.

Payment for extra work will be made as hereinafter provided.

104.06 FINAL CLEANUP. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall clean and remove from the site of the work surplus and discarded materials, temporary structures, stumps or portions of trees and debris of any kind. He shall leave the site of the work in as good or better than condition as prior to work.

SECTION 105 CONTROL OF THE WORK AND MATERIALS

105.01 AUTHORITY OF OWNER'S REPRESENTATIVE. All work shall be provided to the satisfaction of the Owner's Representative. He shall decide all questions which arise as to the quality and acceptability of materials furnished, work performed, manner of performance, rate of progress of the work, interpretation of the plans and specifications, acceptable fulfillment of the contract, compensation, mutual rights between contractors under these specifications and suspension of work. He shall determine the amount and quality of work performed and materials furnished and his decisions and estimates shall be final. His estimate in such event shall be a condition precedent to the right of the Contractor to receive money due him under the contract.

The authority of the Owner's Representative shall not be construed to include the authority to waive, revise or modify specifications as herein set forth either as to kind, type or quality of materials or manner or quality of construction, unless an appropriate Change Order is executed.

Neither the Owner's Representative, nor his designated representatives, shall act as supervisor of the work, nor shall the Contractor rely on any such supervision.

105.02 DETAIL SHOP AND WORKING DRAWINGS FURNISHED BY CONTRACTOR. The Contractor shall submit to the Owner's Representative for approval, such additional shop and working drawings of structures or equipment as may be required, and, prior to the approval of such drawings by the Owner's Representative, any work done or materials ordered shall be at the Contractor's risk. The contract price shall include the cost of furnishing such drawings.

105.03 CONFORMITY WITH PLANS. ALLOWABLE DEVIATIONS. All work shall conform to the lines, grades, cross-sections and dimensions shown on the plans. All deviations from the plans will be accomplished by Change Orders prepared by the Engineer. All Change Orders shall be in writing, and shall, except in case of emergency, be approved by the governing body of the Owner before the work is commenced. Where an actual emergency exists, wherein the delay caused by submitting the Change Order to the governing body of the Owner for approval would jeopardize the interest of the Owner or the public, the Owner's Representative may approve the change in writing. However, Change Orders approved by the Owner's Representative under the circumstances outlined above shall be submitted to the governing body of the Owner for consideration at the next regular meeting. Two (2) copies shall be furnished to the Owner and two (2) copies shall be furnished to the Contractor of all Change Orders approved by the Owner's Representative. Change Orders submitted to the governing body of the Owner for approval shall bear the approval of the Owner's Representative and shall be prepared in four (4) copies, distribution as follows: 2 copies to the Contractor; and 2 copies to the Owner's Representative.

Change Orders shall include the following:

- (a) Complete detail of the work contemplated.
- (b) Estimated cost of the work as originally planned and as contemplated by the Change Order.
- (c) Complete justification.
- (d) Statement as to whether the prices shown are contract bid prices or agreed prices.
- (e) Statement by the Contractor that he agrees to perform the work at the prices shown.

105.04 EXISTING STRUCTURES NOT SHOWN ON PLANS. The plans show the location of certain existing surface and subsurface structures. The Owner assumes no responsibility for failure to show any or all structures on the plans or to show them in their exact location. It is mutually agreed such failure will not be considered sufficient basis for claims for extra work or for increasing the pay quantities in any manner whatsoever, unless the obstruction encountered is such as to necessitate substantial changes in the lines or grades or requires the building of a special structure, provision for which is not made in the plans, in which case the provisions in these specifications for "Extra Work" will apply.

105.05 COORDINATION OF PLANS, SPECIFICATIONS, PROPOSAL AND SPECIAL PROVISIONS. The plans, these specifications, the proposal, Special Provisions and all supplementary documents are intended to describe a complete work and are essential parts of the contract. A requirement occurring in any of them is binding. In case of discrepancies, figured dimensions shall govern over scaled dimensions; plans shall govern over specifications; Special Provisions shall govern over the plans and over both General and Standard Specifications, and the quantities shown on the plans shall govern over those shown in the proposal. The Contractor shall take no advantage of any apparent error or omission in the plans and specifications, and the Owner's Representative shall be permitted to make such corrections or interpretations as may be deemed necessary for the fulfillment of the plans and specifications. In the event the Contractor discovers any apparent error or discrepancy, he shall immediately call such error or discrepancy to the attention of the Owner's Representative.

105.06 COOPERATION OF CONTRACTOR. Three sets of plans and specifications will be furnished the Contractor as follows: One office copy, one for the Field Superintendent, and one copy for job use. The Contractor, however, shall have a set of plans and specifications available at all points where a separate construction crew is working.

The Contractor shall give the work the consistent attention necessary to facilitate the progress thereof, and he shall cooperate with the Owner's Representative and any inspectors and with other contractors in every way possible. The Contractor shall provide a competent Superintendent on the work at all times who is fully authorized as his agent on the work. Such Superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the Owner's Representative or his representative.

The Contractor and his Superintendent shall provide all reasonable facilities to enable the Owner's Representative and any inspectors to inspect the workmanship and materials entering the work.

105.07 CONSTRUCTION STAKING. The Contractor shall furnish, place and maintain construction layout stakes necessary for the proper prosecution and inspection of the work under the contract in accordance with these Specifications.

The Owner will locate and reference the centerline of construction and will establish bench marks and set sufficient right-of-way stakes to define right-of-way limits. The Owner will set stakes to mark centerline and establish bench marks for bridges and special structures as may be considered necessary. The Owner's stakes and benchmarks shall constitute field control staking.

The Contractor shall exercise care in the preservation of stakes and bench marks and shall have them reset at his expense when any are damaged, lost, displaced or removed. The Contractor shall use competent personnel and suitable equipment for the layout of the work required. The Contractor shall not engage the services of any person or persons in the employment of the Owner or its equipment for the performance of any of this work.

The Contractor shall provide field forces and shall set all additional stakes needed, such as offset stakes, reference point stakes, slope stakes, pavement and curb line and grade stakes, stakes for bridges, sewers, roadway drainage, pipe underdrains, paved gutter, fence, culverts or other structures, and any other horizontal or vertical controls necessary to secure a correct layout of the work. Stakes for line and grade shall be adequate to maintain the specified tolerances for the operation being performed. The station number and the distance from the centerline of construction shall be marked on all grade stakes.

The Contractor shall furnish the original of his survey records to the Owner for the Owner's permanent file. These records shall be furnished as they are completed during the progress of the work. These records shall be in permanently bound field books and/or level books and formatted in a manner commonly accepted by the surveying profession. The Owner's Representative may at any time check the correctness of the Contractor's staking work by using spot check method. When significant errors occur, the Contractor shall resurvey to the satisfaction of the Owner's Representative. The Contractor shall furnish, at his expense, platforms and equipment necessary for proper and safe access for checking his staking. Any inspection or checking of the Contractor's layout by the Owner's Representative and the acceptance of all or any part of it shall not relieve the Contractor of his responsibility to secure the proper dimensions, grades, and elevation of the several parts of the work. Deviations resulting from plan errors will be resolved by the Owner.

Contractor construction staking will not be paid as a separate item, but all associated costs shall be included in the price bid for other items of work.

105.08 MEASUREMENTS. Before ordering any material or doing any work, the Contractor shall verify all measurements involved and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of difference between actual dimensions and the measurements indicated on the drawings, and any difference which may be found shall be submitted to the Owner's Representative for consideration before proceeding with the work.

105.09 SOURCE OF SUPPLY AND QUALITY OF MATERIALS. The Contractor shall not start delivery of materials until the Owner's Representative has approved the source of supply. Only materials conforming to the requirements of these specifications shall be used in the work and such materials shall be used only after written the Owner's Representative has given approval and only so long as the quality of said material remains equal to the requirements of the specifications. The Contractor shall furnish approved materials from other sources, if, for any reason, the product from any source at any time before commencing or during the prosecution of the work proves unacceptable. After approval, any material which has become mixed with or coated by dirt or any other foreign substances during its delivery and handling shall not be used in the work.

105.10 MATERIALS AND WORKMANSHIP. The Contractor shall submit samples of materials, finish, appliances, etc., when required by the Owner's Representative, and all such samples must be approved by the Owner's Representative in writing before the work is executed and all work shall conform in all respects to the approved samples. Any work which does not conform to the approved samples will be rejected, and shall be removed and replaced by work that does so conform.

105.11 SAMPLES AND TESTS OF MATERIALS. Where, in the opinion of the Owner's Representative or called for in the specifications, tests of materials are necessary, such tests shall be made by, and at the expense of the Contractor, unless otherwise provided. Tests, unless otherwise specified, are to be made in accordance with the latest standard methods of the American Society for Testing Materials. The Contractor shall provide such facilities as the Owner's Representative may require for collecting and forwarding samples and shall not use the materials represented by the samples until test results have been approved by the Owner's Representative.

The Contractor in all cases shall furnish the required samples without charge.

105.12 CONTRACTOR'S QUALITY CONTROL

- (a) Contractor shall be responsible for all Quality Control necessary to ensure compliance with these specifications and any manufacturer's requirements. Contractor's Quality Control shall include testing, documentation, and daily diaries, with copies to the Owner's Representative. All associated costs for Contractor's Quality Control shall be included in the price bid for other items.
- (b) The Contractor must show proof that all employees associated with this project shall have been employed by the Contractor for a period not less than six (6) months, unless waived by the Owner's Representative.

105.13 STORAGE OF MATERIALS. Materials shall be stored so as to insure the preservation of their quality and fitness for the work. They shall be placed on wooden platforms or other hard, clean surfaces and not on the ground, and shall be placed under cover when directed. Stored materials shall be located so as to facilitate prompt inspection.

105.14 INSPECTION. The Contractor shall furnish the Owner's Representative with every reasonable facility for ascertaining whether or not the work as performed is in accordance with the requirements and intent of the plans and specifications. If the Owner's Representative requires, the Contractor shall at any time before acceptance of the work, remove and uncover

such portions of the finished work as may be directed, for inspection. After inspection, the Contractor shall restore said portions of the work to the condition required by the specifications.

Should the work thus exposed on examination prove acceptable the cost of uncovering or removing and the replacing of the covering or making good the parts removed will be paid for as "Extra Work". Should the work so exposed or examined prove unacceptable, the cost of covering or removing and the replacing of the covering or making good of the parts removed shall be at the Contractor's expense. When ample notice of the intention to complete or cover up the work was not given by the Contractor to the Owner's Representative, then the cost of the uncovering or removing and the replacing of the covering or making good of the parts removed shall be borne by the Contractor regardless of whether or not the work examined proved acceptable or unacceptable. Any work provided or materials used without suitable supervision or inspection by the Owner's Representative may be ordered removed and replaced at the Contractor's expense.

105.15 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK All work which has been rejected or condemned shall be repaired, or, if it cannot be satisfactorily repaired, it shall be removed and replaced at the Contractor's expense. Defective materials shall be removed immediately from the site of the work.

Work provided without lines and grades having been given, work provided beyond the lines or not in conformity with the grades shown on the plans or as given, save as herein provided; work provided without written authority and prior agreement in writing as to prices, will be provided at the Contractor's risk and will be considered unauthorized, and, at the option of the Owner's Representative may not be measured and paid for and may be ordered removed at the Contractor's expense.

Upon the failure of the Contractor to satisfactorily repair or to remove and replace, if so directed, any rejected, unauthorized or condemned work or materials immediately after receiving notice from the Owner's Representative, the Owner's Representative shall, after giving written notice to the Contractor, have the authority to cause unauthorized work to be removed and to deduct the cost thereof from any compensation to become due to the Contractor. If the Owner's Representative and Owner deem it inexpedient to correct work injured or done not in accordance with the contract, an equitable deduction from the contract price may be made therefor.

105.16 CORRECTION OF WORK AFTER FINAL PAYMENT. Neither the final certificate nor payment nor any provision in the Contract Documents shall relieve the Contractor of responsibility for faulty materials or workmanship and, unless otherwise specified, he shall remedy any defects due thereto and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of substantial completion. The Owner shall give notice of observed defects with reasonable promptness.

105.17 FINAL INSPECTION. The Owner's Representative shall make final inspection of all work included in the contract or any portion thereof as soon as practicable after the work is completed and ready for acceptance. If the work is not acceptable to the Owner's Representative at the time of such inspection, he shall inform the Contractor as to the particular defects to be remedied before the final acceptance can be made.

SECTION 106
LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

106.01 **LAWS TO BE OBSERVED.** The Contractor shall, at all times, observe and comply with all Federal and State laws and City ordinances and regulations which in any manner affect the conduct of the work and shall observe and comply with all orders and decrees which exist at the present or which may be enacted later, of bodies or tribunals having jurisdiction or authority over the work, and no plea of misunderstanding or ignorance thereof will be considered. The Contractor and his surety shall defend, indemnify and save harmless the City and all its officers, agents, employees and servants against any claims or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by himself or his employees.

106.02 **PERMITS AND LICENSES.** The Contractor shall procure all permits and licenses, pay all charges or fees, and give all notices necessary and incidental to the due and lawful prosecution of the work.

106.03 **PATENTED DEVICES, MATERIALS AND PROCESSES.** If the Contractor is required or desires to use any design, device, material or process covered by letters patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. It is mutually understood and agreed that without exception the contract prices shall include all royalties or costs arising from patents, trademarks and rights in any way involved in the work. The Contractor and Surety shall defend, indemnify and save harmless the Owner and all its officers, agents and employees from all suits, actions or claims of any character, name and description brought for or on account of infringement or alleged infringement by reason of the use of any such patented design, device, material or process or any trademark or copyright used in connection with the work agreed to be performed under this contract, and shall indemnify the Owner for any cost, expense or damage which it may be obliged to pay by reason of any action or actions, suit or suits which may be commenced against the Owner for any such infringement or alleged infringement at any time during the execution or after the completion of the work contracted for herein, It is mutually agreed that the Owner may give written notice of any such suit to the Contractor, and thereafter the Contractor shall attend to the defense of the same and save and keep harmless the Owner from all expense, counsel fees, cost liabilities, disbursements, recoveries, judgments and executions in any manner growing out of, pertaining to or connected therewith.

106.04 **SANITARY PROVISIONS.** The Contractor shall establish and enforce among his employees such regulations in regard to cleanliness and disposal of garbage and waste as will tend to prevent the inception and spread of contagious or infectious diseases and to effectively prevent the creation of a nuisance about the work or any property, either public or private and such regulations as are required by the Owner's Representative shall be put into effect immediately by the Contractor. Contractor shall strictly comply with all sanitary laws and regulations of the Owner and the State of Oklahoma.

106.05 **PUBLIC CONVENIENCE AND SAFETY.** Materials stored about the work shall be so placed and the work shall at all times be so conducted as to cause no greater obstruction of the traveling public than is considered necessary by the Owner's Representative. The Contractor shall make arrangements satisfactory to the Owner's Representative for handling traffic. Sidewalks must not be obstructed unless by special permission of the Owner's Representative. Neither the materials excavated nor the construction materials or plant used in the construction

of the work shall be placed so as to endanger the work or prevent free access to all fire hydrants, water valves, gas valves, manholes for electric, telephone, telegraph or traffic signal conduits, sewers or fire alarm or police call boxes in the vicinity. The Owner reserves the right to remedy any neglect on the part of the Contractor as regards the public convenience and safety which may come to its attention, after twenty-four (24) hours notice in writing to the Contractor, save in cases of emergency when it shall have the right to remedy any neglect without notice and, in either case, the cost of such work done by the Owner shall be deducted from monies due or to become due the Contractor. The Contractor shall notify the Public Works Director a minimum of 24 hours before any street is closed or obstructed and shall keep any street or streets in condition for unobstructed use by fire and other emergency apparatus, as much as is practical.

Where the Contractor is required to construct temporary culverts or bridges or make other arrangements for crossings over ditches or streams, his responsibility for accidents shall include the roadway approaches as well as the structures of such crossings.

Contractor shall give written notice to all residents/occupants/businesses that may be affected by the work (e.g. water disruption, street closure, sewer jet cleaning). Said written notice shall be delivered no less than 48 hours, nor more than 2 weeks prior to the start time of the disruption.

The written form may be "door hangars", but in any event shall be submitted to and approved by the Owner's Representative prior to use. At a minimum the form shall contain:

- Project Identification
- Contractor Name, address, Telephone Number
- Type of Construction
- Reason for affecting or disrupting service and duration of such

106.06 PRIVILEGES OF CONTRACTOR IN STREETS, ALLEYS, OR RIGHTS-OF-WAY.

For the performance of the contract, the Contractor will be permitted to occupy such portions of streets or alleys, other public places or other rights-of-way as provided for in the ordinances of the City, as shown on the plans or as permitted by the Owner's Representative. A reasonable amount of tools, materials and equipment for construction may be stored in such space but not more than is necessary to avoid delay in the construction. Excavated and waste materials shall be piled or stacked in such a way as not to interfere with spaces that may be designated to be left free and unobstructed, nor inconvenience occupants of adjoining property. Other contractors of the Owner may, for all purposes required by their contracts, enter upon the work and premises used by the Contractor, and the Contractor shall give to other contractors of the Owner, all reasonable facilities and assistance for the completion of the adjoining work. Any additional grounds desired by the Contractor for his use shall be provided by him at his own expense.

106.07 RAILWAY CROSSINGS. When the work encroaches upon the right-of-way of any railway, the Owner will secure for the Contractor, all the necessary contracts, easements or authority to enter upon such right-of-way for the prosecution and completion of the work. Where railway tracks are to be crossed, the railway company, if it elects to do so, may construct the necessary bridges, trestles, cribs or other structures for the safe operation of trains or cars across any excavation during the time of construction of the work, and the cost of construction of such bridges, trestles, cribs or other structures shall be paid to the railway company by the Contractor together with the necessary cost of any supervision or other incidental expenses which may be required by the railway company while the work is in progress on the right-of-way of the railway company, and all such costs shall be taken into consideration by the Contractor in submitting proposals. The Contractor shall take such special precautions for the safety of the

work and the traveling public as may be necessary by sheeting, bracing and thoroughly supporting the sides of any excavation and supporting and protecting any adjacent structures.

106.08 BARRICADES AND WARNING SIGNS. Where work is carried on, in or adjacent to any street, alley, or public place, the Contractor shall furnish and erect such barricades, fences, lights, signs and other appurtenances in accordance with the MUTCD and OSHA requirements. The Contractor shall take such precautionary measures for the protection of persons or property and of the work as are necessary. Failure to comply with this requirement may result in the Owner's Representative discontinuing or suspending the work until the Contractor shall have provided the necessary protection.

The Contractor's responsibility for the maintenance of barricades, signs and lights and protection of the work shall not cease until the project shall have been accepted by the Owner.

106.09 USE OF EXPLOSIVES. Should the Contractor elect to use explosives to loosen rock or for any other purpose in the prosecution of the work, he shall obtain the required permits and the written permission of the Owner's Representative before any blasting is done, but neither the issuance of said permits, the granting of said permission nor any other act, requirement or condition contained in the specifications, nor any order, direction or approval given by the Owner's Representative or any other official or employee of the Owner shall be construed as requiring or directing the use of any explosives or as accepting any liability for any injury or damage to persons or property resulting from such usage. No blasting shall be done unless an Inspector is present and the Contractor shall notify the City Code Enforcement Division when he is ready to begin any blasting work. All necessary precautions shall be taken by the Contractor as required by the ordinances of the City or the laws of the State of Oklahoma relative to blasting and the necessary provisions shall be made for the protection of the new work and all blasting shall be so conducted as not to endanger persons or property. Only sufficient quantity of explosives necessary for the immediate day's work shall be kept on hand by the Contractor. Storage of caps, exploders and explosives shall be done strictly in compliance with the orders of the Owner's Representative and the ordinances of the City. The Contractor shall be responsible for and shall make good any damage caused by blasting or accidental explosions.

The Contractor shall notify the proper representatives of any public service corporation, any company or individual, not less than forty-eight (48) hours in advance of any blasting which might cause damage to their or his property along or adjacent to the work. Wherever explosives are stored, they shall be kept in a safe, secure manner and all storage places shall be plainly marked "Dangerous Explosives", and shall be under the care of a competent watchman at all times.

106.10 PROTECTION AND RESTORATION OF PROPERTY. The Contractor shall not enter upon private property for any purpose without first obtaining permission and he shall be responsible for the preservation of and shall use every precaution necessary to prevent damage to all trees, fences, culverts, bridges, pavements, driveways, sidewalks, etc., to all water, sewer, gas or electric lines or appurtenances thereof and to all other public or private property along or adjacent to the work. The Contractor shall notify the proper representatives of any public service corporation, and company or any individual, not less than twenty-four (24) hours in advance of any work which might damage or interfere with the operation of their or his property, along or adjacent to the work. He shall be responsible for all damage or injury to property of any character resulting from any act, omission, neglect, or misconduct in the manner or method of executing the work or due to his non-execution of the work, or at any time due to defective work or materials, and said responsibility shall not be released until the work shall have been completed and accepted. When any direct or indirect damage or injury is done to public or private property

on account of any act, omission, neglect or misconduct in the execution of the work or in consequence of the non-execution thereof on the part of the Contractor, he shall restore at his expense such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding or otherwise restoring, or he shall make good such damage for injury in an acceptable manner.

In case of the failure on the part of the Contractor to restore such property or make good such damage or injury, the Owner may, upon forty-eight (48) hours written notice, under ordinary circumstances, and without notice when a nuisance or hazardous condition results, proceed to repair, rebuild or otherwise restore such property as may be determined necessary and the cost thereof will be deducted from any monies due or to become due the Contractor under his contract.

106.11 PROTECTION AND PRESERVATION OF LAND MONUMENTS AND PROPERTY-LINE MARKS. The Contractor shall protect carefully from disturbance or damage all land monuments and iron pins or other markers which establish property lines, provided that where such monuments or markers must, of necessity, be disturbed or removed in the performance of the contract, the Contractor shall first give ample notice to the Owner's Representative, so that he may witness or reference in such monuments or markers. Should the Contractor disturb, remove or damage any established land monument or property line mark without first giving the Owner's Representative ample notice, the Owner's Representative may, at his option deduct the cost of re-establishing such monuments or markers from any monies due to become due the Contractor.

106.12 RESPONSIBILITY FOR DAMAGE CLAIMS. The Contractor and his surety shall defend, indemnify and save harmless the Owner and all its officers, agents and employees from all suits, actions or claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person or persons or property by or from the said Contractor or his employees or by or in consequence of any negligence in safeguarding the work or through the use of unacceptable materials in constructing the work or by or on account of any act or omission, neglect or misconduct of said Contractor or by or on account of any claim or amounts arising or recovered under the Workmen's Compensation Law or any other law, ordinance, order or decree, and so much of the money due the said Contractor under and by virtue of his contract as shall be considered necessary by the Owner may be retained for the use of the Owner, or in case no money is due, his surety shall be held until such suit or suits, action or actions, claim or claims for injury or damages as aforesaid shall have been settled and satisfactory evidence to the effect furnished to the Owner.

106.13 CONTRACTOR'S CLAIM FOR DAMAGES. Should the Contractor claim compensation for any alleged damage by reason of the acts or omissions of the Owner, he shall within ten (10) days after the sustaining of such damage, make a written statement to the Owner's Representative, setting out in detail the nature of the alleged damage. On or before the 25th day of the month succeeding that in which any such damage is claimed to have been sustained, the Contractor shall file with the Owner's Representative an itemized statement of the details and amount of such damage, and upon request shall give the Owner's Representative access to all books of accounts, receipts, vouchers, bills of lading and other books or papers containing any evidence as to the amount of such damage. Unless such statement shall be filed as thus required, the Contractor's claim for compensation shall be waived and he shall not be entitled to payment on account of any such damage.

106.14 PUBLIC UTILITIES AND PUBLIC PROPERTY. In the event it is necessary to change or move the property of any owner of a public utility, such owner will, upon proper application by the Contractor, be notified by the Owner's Representative to change or move such property within a specified time, and the Contractor shall not interfere with such property until ordered to do so by the Owner's Representative. The right is reserved to the owner of public utilities to enter upon the limits of the contract for the purpose of making such repairs or changes of their property that may be necessary by performance of the contract. The Owner shall have the privilege of entering upon the limits of the contract for the purpose of repairing or relaying sewer and water lines and appurtenances, repairing culverts or storm drains, and for making other repairs, changes or extensions to any utilities.

The Contractor shall provide all notices to the ONE-OKIE system prior to excavating, in accordance with State law.

106.15 TEMPORARY SEWER AND DRAIN CONNECTIONS. When existing sewers have to be taken up or removed, the Contractor at his own expense shall provide and maintain temporary outlets and connections for all private or public drains, sewers or sewer, inlets. He shall also take care of all sewage and drainage which will be received from these drains, sewers and sewer inlets, and for this purpose he shall provide and maintain at his own expense adequate pumping facilities and temporary outlets or diversions. He shall construct such troughs, pipes or other structures necessary and be prepared at all times to dispose of drainage and sewage received from these temporary connections until such time as the permanent connections are built and in service. The existing sewers and connections shall be kept in service and maintained under the contract, save where specified or ordered to be abandoned by the Owner's Representative. All water or sewage shall be disposed of in a satisfactory manner so that no nuisance is created and that the work under construction will be adequately protected.

106.16 ARRANGEMENT AND CHARGE FOR POTABLE WATER FURNISHED BY THE OWNER. If the Contractor desires to use Owner water he shall pay the rate established by City ordinances for such service and he shall make complete and satisfactory arrangements with the Water Department for so doing. Meters will be used and the Contractor shall deposit the cost of the water meter with the Water Department and will pay for all repairs and maintenance of the meter for the period which he has the meter in use or in his possession.

106.17 USE OF FIRE HYDRANTS. The Contractor or his employees shall not open, turn off, interfere with, attach pipe or hose to or connect anything with any fire hydrant, stop valve or stop cock or tap any water main belonging to the Owner, unless duly authorized to do so by the Water Department.

106.18 USE OF A SECTION OR PORTION OF THE WORK. Whenever in the opinion of the Owner's Representative any portion of the work or any structure is in suitable condition it may be put into use by the written order of the Owner's Representative and such usage shall not be held to be in any way acceptance of said work or structure or any part thereof or as a waiver of any of the provisions of these specifications or contract. Pending final completion and acceptance of the work, all necessary repairs and renewals on any section of the work so put into use, due to defective material or workmanship, to natural causes other than ordinary wear and tear or to the operations of the Contractor shall be performed by and at the expense of the Contractor.

106.19 CONTRACTOR'S RESPONSIBILITY FOR THE WORK. Until issuance of written acceptance by the Owner's Representative as provided for in these specifications, the work shall

be under the charge and care of the Contractor, and he shall take every necessary precaution to prevent injury or damage to the work or any part thereof by the action of the elements or from any other cause whatsoever, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good, at his own expense, all injuries or damage to any portion of the work occasioned by any of the above causes before acceptance.

106.20 PERSONAL RESPONSIBILITY OF PUBLIC OFFICIALS. In carrying out any of the provisions contained herein or in exercising any power or authority granted to him by the contract, there shall be no liability upon the Owner's Representative or his authorized assistants, either personal or as officials of the Owner, it being understood that in such matters he acts as the agent and representative of the Owner.

106.21 WAIVER OF LEGAL RIGHTS. Inspection by the Owner's Representative or by any of the duly authorized representatives of the Owner's Representative, any order, measurement, or certificate by the Owner's Representative, any order by the Owner for the payment of money, any payment for or acceptance of any work or any extension of time or any possession taken by the Owner, shall not operate as a waiver of any provision of the contract or any power therein provided. Any waiver of any breach of contract shall not be held to be a waiver of any other or subsequent breach. The Owner reserves the right to correct any error that may be discovered in any estimate that may have been paid and to adjust the same to meet the requirements of the contract and specifications. The Owner reserves the right to claim and recover by process of law sums as may be sufficient to correct any error or errors or make good any deficiency in the work resulting from such error or deficiency, dishonesty or collusion discovered in the work after the final payment has been made.

106.22 CONTRACTOR'S INSURANCE. The Contractor shall not commence work under this contract until he has obtained all insurance required under this specification and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all similar insurance required for the subcontractor has been so obtained and approved.

- (a) WORKMEN'S COMPENSATION AND DEATH LIABILITY INSURANCE. The Contractor shall secure and maintain during the life of this contract Workmen's Compensation Insurance as prescribed by the laws of the State of Oklahoma for all his employees employed at the site of the project. The Contractor shall require any subcontractor similarly to provide Workmen's Compensation and Employer's Death Liability insurance for all the latter's employees, unless such employees are covered by the protection afforded by the Contractor.
- (b) PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE. The Contractor shall secure and maintain during the life of this contract such Public Liability and Property Damage Insurance as will protect the Owner, himself, and any subcontractor performing work covered by this contract, from claims for damages for personal injury, including accidental death, as well as from claims for property damages, which may arise from operations under this contract, whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by either of them.
- (c) Contractor shall provide to the City a certificate of public liability insurance, a certificate of worker's compensation insurance, and automobile public liability insurance as follows:

Comprehensive Public Liability and Property Damage

Bodily Injury	\$ 125,000 per individual
	\$1,250,000 in the aggregate per occurrence;
Property Damage	\$ 25,000 per occurrence
	\$ 125,000 in the aggregate

Worker's Compensation Insurance. Statutory limits as required by the laws of the State of Oklahoma, including employer's liability insurance with \$500,000 limit.

Automobile Public Liability Insurance

Bodily Injury	\$ 125,000 per individual
	\$1,000,000 in the aggregate per occurrence

Public Liability Insurance in the amount of not less than fifty thousand dollars(\$50.000) for injuries, including accidental death, or one hundred thousand dollars(\$100.000) for one accident.

106.23 LIENS. Neither the final payment nor any part of the retained percentage shall become due until the Contractor, if required, shall deliver to the Owner a complete release of all liens arising out of this Contract, or receipts in full in lieu thereof and, if required in either case, an affidavit that so far as he has knowledge or information the releases and receipts include all the labor and material for which a lien could be filed; but the Contractor may, if any subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Owner, to indemnify him against any lien. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney's fee.

SECTION 107 PROSECUTION AND PROGRESS

107.01 SUBLETTING OF WORK. If the Contractor sublets the whole or any part of the work to be done under this contract, he will not under any circumstances be relieved of his responsibility and obligations. All transactions of the Owner's Representative shall be with the Contractor. Subcontractors will be considered only in the capacity of employees or workmen and shall be subject to the same requirements as to character and competency. The Contractor shall at all times when work is in operation, be represented either in person or by a qualified superintendent or qualified designated representative.

The Contractor shall submit the name and address of any proposed subcontractor to the Owner's Representative in writing prior to said subcontractor performing any of the work. The Contractor shall clearly list the types and amounts of work of the subcontractor.

107.02 ASSIGNMENT OF CONTRACT. The Contractor shall not assign, transfer, convey or otherwise dispose of the contract or his right, title, or interest in or to the same or any part thereof without the previous consent of the Owner's Representative in writing, approved by the governing body of the Owner and concurred in by the Surety. If the Contractor does, without such previous consent, assign, transfer, convey, or otherwise dispose of the contract or of his right, title or interest therein or any part thereof to any person or persons, partnership, company, firm or corporation or by bankruptcy, voluntary or involuntary, or by assignment under the insolvency laws of any state, attempt to dispose of the contract or make default in or abandon said contract, then the contract may, at the option of the Owner, be revoked and annulled unless the Surety shall successfully complete said contract and any monies due or to become due under said contract shall be retained by the Owner as liquidated damages for the reason that it would be impractical and extremely difficult to determine the actual damages.

107.03 PROSECUTION OF WORK. The Contractor shall begin the work to be performed under the contract within the time limit stated in the advertisement, proposal and contract, and shall conduct the work in such a manner and with sufficient equipment, materials and labor as is necessary to insure its completion within the time limit set forth in the proposal and contract. Should the prosecution of the work for any reason be discontinued by the Contractor for an extended period of time, he shall notify the Owner's Representative at least twenty-four (24) hours in advance of resuming operations.

107.04 PROJECT SCHEDULES. Within ten days after the effective date of the agreement, the Contractor shall submit to the Owner's Representative for review a progress schedule indicating the times (number of days or dates) for starting and completing the various stages of the Work, including any milestones specified in the contract documents.

No progress payment shall be made to the Contractor until the schedules are submitted to and acceptable to the Owner's Representative as provided below. The progress schedule will be acceptable to the Owner's Representative as providing an orderly progression of the work to completion within any specified milestones and the contract times, but such acceptance will neither impose on the Owner's Representative responsibility for the sequencing, scheduling or progress of the work nor interfere with or relive the Contractor from the Contractor's full responsibility therefor. The Contractor's schedule of Shop Drawing(s) and Sample submissions will be acceptable to the Owner's Representative as providing a workable arrangement for reviewing and processing the required submittals.

107.05 LIMITATION OF OPERATIONS. The Contractor shall conduct his work so as to create a minimum amount of inconvenience to the public. At any time when in the judgment of the Owner's Representative the Contractor has obstructed or closed or is carrying on operations on a greater portion of the site or public way than is necessary for the proper execution of the work, the Owner's Representative may require the Contractor to finish sections on which work is in progress before work is started on any additional section.

107.06 CHARACTER OF WORKMEN AND EQUIPMENT. The Contractor shall employ such superintendents, foremen and workmen as are careful and competent, and the Owner's Representative may require removal from the project of any person or persons employed by the Contractor, in, about or on the work who shall misconduct himself or be incompetent or negligent in the proper performance of his or their duties or neglect or refuse to comply with the directions of the Owner's Representative, and such person or persons shall not be employed again thereon without the written consent of the Owner's Representative. The Owner's Representative may withhold all payments which are or may become due or may suspend the work until such orders are fulfilled.

All workmen shall have sufficient skill and experience to properly perform the work assigned them. All workmen engaged on special work or skilled work or in any trade shall have sufficient experience in such work to properly and satisfactorily perform it and operate the equipment involved, and shall make due and proper effort to execute the work in the manner prescribed in these specifications.

In the employment of labor, preference shall be given, other conditions being equal, to bona fide residents of the Owner or the area, but no other preference or discrimination among citizens of the United States shall be made.

The Contractor shall furnish such equipment as is considered necessary for the prosecution of the work in an acceptable manner and at a satisfactory rate of progress. All equipment, tools and machinery used for handling materials and executing any part of the work shall be operated and maintained in a satisfactory working condition in accordance with the equipment manufacturers' recommendations. Equipment on any portion of the work shall be such that no injury to the work or adjacent property will result from its use.

107.07 DAYS WORK WORKING HOURS. Work shall be performed only during regular and commonly accepted and prescribed working hours. No work shall be performed nights, Sundays or during City holidays unless authorized in writing.

107.08 TIME OF COMMENCEMENT AND COMPLETION. The Contractor shall commence work within the time specified in the advertisement, proposal and contract and the rate of progress shall be such that the whole work will be performed and the premises cleaned up in accordance with the contract, plans and specifications within the time limit, as stated in the contract, unless an extension of time is granted in the manner hereinafter specified.

107.09 EXTENSION OF TIME OF COMPLETION. If the Contractor finds it impossible, for reasons beyond his control, to complete the work within the Contract time as specified or as extended in accordance with the provisions of this Subsection, he may, at any time prior to the expiration of the Contract time as extended, make a written request to the Owner's Representative for an extension of time setting forth therein the reasons which he believes will justify the granting of his request. The Contractor's plea that insufficient time was specified in

the Proposal and the Contract or that previously unprotested time charges were incorrect shall not be grounds for an extension of time. If the Owner's Representative finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, the Owner's Representative may extend the time for completion in such amounts as the conditions justify. The extended time for completion shall be in full force and effect the same as though it were the original time for completion. Daily time charges will cease when the project is completed.

In adjusting the contract time for the completion of the project, all strikes, lockouts, unusual delays in transportation or any condition over which the Contractor has no control and also any suspensions ordered by the Owner's Representative for causes not the fault of the Contractor shall be excluded from the computation of the contract time for completion of the work. If the satisfactory execution and completion of the contract should require work or materials in greater amounts or quantities than those set forth in the contract, then the contract time shall be increased in the same proportion as the cost of the original work. No allowance shall be made for delays or suspension of the prosecution of the work due to the fault of the Contractor.

107.10 FAILURE TO COMPLETE WORK ON TIME. It is mutually agreed by Owner and Contractor that time is of the essence of this Contract and that Owner will suffer financial loss if the Work is not substantially complete within the time specified in the Contract, plus any extensions thereof allowed in accordance with Section 107.09 of these General Conditions. They also recognize the delays, expense and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner the amount set forth in the Special Provisions, until the work is substantially complete.

107.11 TEMPORARY SUSPENSIONS. The Owner's Representative shall have the authority to suspend the work wholly or in part for such period or periods, as he may deem necessary, due to unsuitable weather or such other conditions as are considered favorable for the suitable prosecution of the work.

If it should be necessary to stop work for an indefinite period, the Contractor shall store all materials in such manner that they will not obstruct or impede the traveling public unnecessarily nor become damaged in any way, and he shall take every precaution to prevent damage or deterioration of the work performed, and shall provide suitable drainage of the work.

107.12 SUSPENSION OF WORK AND ANNULMENT OF CONTRACT. The work or any portion of the work under contract may be suspended on written order of the Owner's Representative or the Owner, with copy of such notice to be served upon the Contractor's Surety, or the contract may be annulled by the Owner, for any good cause or causes, said causes including but not limited to the following:

- (a) Failure of the Contractor to start the work within the time limit specified;
- (b) Substantial evidence that the progress being made by the Contractor is insufficient to complete the work within the specified time;
- (c) Failure of the Contractor to provide sufficient and proper equipment for properly executing the work;

- (d) Deliberate failure on the part of the Contractor to observe any requirements of these specifications or to comply with any orders given by the Owner's Representative, as provided for in these specifications;
- (e) Failure of the Contractor to promptly make good any defects in materials or workmanship or any defects of any other nature, the correction of which had been directed in writing by the Owner's Representative.
- (f) Substantial evidence of collusion for the purpose of illegally procuring a contract or perpetrating fraud on the Owner in the construction of work under contract.

When work is suspended for any one of the causes itemized above, or for any other cause or causes, the Contractor shall discontinue the work or such part thereof as the Owner shall designate, whereupon the Surety may, at its option, assume the contract or that portion thereof which the Owner has ordered the Contractor to discontinue and may perform the same or may, with the written consent of the Owner's Representative, approved by the Owner, sublet the work or portion of the work so assumed; provided, however, that the Surety shall exercise its option, if at all, within two (2) weeks after the written notice to discontinue work has been served upon the Contractor and upon the Surety or its authorized agent. The Surety, in such event shall assume the Contractor's place in all respects and shall be paid by the Owner for all work performed by it in accordance with the terms of the contract and, if the Surety, under the provisions hereof, shall assume said entitled contract, all monies remaining due the Contractor at the time of his default shall thereupon become due and payable to the Surety as the work progresses, subject to all the terms of the contract.

In the event that the Surety does not within the time hereinbefore specified, exercise its right and option to assume the contract, or that portion thereof which the Owner has ordered the Contractor to discontinue, then the Owner shall have the power to complete, by contract or otherwise as it may determine, the work herein described, or such part thereof as it may deem necessary, and the Contractor hereby agrees that the Owner shall have the right to take possession of and use any of the materials, tools, equipment, supplies and property of every kind provided by the Contractor for the purpose of his work and to procure other tools, equipment and materials for the completion of the same, and to charge to the account of the Contractor the expense of said contract for labor, materials, tools, equipment and expenses incident thereto. The expense so charged shall be deducted by the Owner out of such monies as may be due or may at any time thereafter become due to the Contractor under and by virtue of the contract or any part thereof. The Owner shall not be required to obtain the lowest bid for the work of completing the contract but the expense to be deducted shall be the actual cost of such work. In case such expense is less than the same which would have been payable under the contract, if the same had been completed by the Contractor, the balance shall operate as liquidated damages, as herein above set forth. In case such expense shall exceed the amount which would, have been payable under the contract, if the same had been completed by the Contractor, then the Contractor and his Surety shall pay the excess as due and payable. When, any particular part of the work is being carried out by the Owner by contract or otherwise under the provisions of this Section, the Contractor shall continue the remainder of the work in conformity with the terms of the contract and in such manner as not to hinder or interfere with the performance of workmen employed as above provided by the Owner.

107.13 TERMINATION OF CONTRACT. The Contract will be considered fulfilled save as provided in any bond or bonds or by law, when all the work has been completed, the final inspection made by the Owner's Representative, and final acceptance and final payment made by the Owner.

SECTION 108 MEASUREMENT AND PAYMENT

108.01 MEASUREMENT OF QUANTITIES. The determination of quantities of work accepted and completed under the terms of the contract or as directed by the Owner's Representative, in writing, will be made by the Owner's Representative, based on measurements taken by him or his assistants, or at the sole discretion of the Owner's Representative determination of quantities may be based on measurements taken by the Contractor. These measurements will be taken according to the United States Standard Measurements. When materials are measured in the vehicle, the measurement will be taken at the point of delivery. The capacity of all vehicles shall be plainly marked on each vehicle and the capacity or markings shall not be changed without permission of the Owner's Representative.

108.02 SCHEDULE OF VALUES. (For Lump Sum Items or Contracts Only) Prior to work commencing, Owner's Representative and Contractor shall determine and agree to payments based on a percentage of the Lump Sum amount, to correlate to completion of respective phases of the work.

108.03 SCOPE OF PAYMENT. The Contractor shall receive and accept the compensation as herein provided as full payment for furnishing all labor, materials, tools, equipment and incidentals; for performing all work contemplated and embraced under the contract; for all loss or damage arising out of the nature of the work or from the action of the elements; for any unforeseen defects or obstructions which may arise or be encountered during the prosecution of the work and before its final acceptance by the Owner's Representative; for all risks of every description connected with the prosecution of the work; for all expenses incurred by or in consequence of suspension or discontinuance of such prosecution of the work as herein specified; for any infringement of patents, trademarks or copyrights and for completing the work in an acceptable manner according to the plans and specifications.

The payment of any current or partial estimate prior to final acceptance of the work by the Owner shall in no way constitute an acknowledgment of the acceptance of the work nor in any way prejudice or affect the obligation of the Contractor to repair, correct, renew, or replace at his expense any defects or imperfections in the construction or in the strength or quality of the materials used in or about the construction of the work under the contract and its appurtenances nor any damage due to or attributable to such defects, which defects, imperfections or damage shall have been discovered on or before the final inspection and acceptance of the work. The Owner's Representative shall be the sole judge of such defects, imperfections or damage and the Contractor shall be liable to the Owner for failure to correct the same as provided herein.

108.04 PAYMENT FOR EXTRA WORK. Extra work provided by the Contractor, as authorized and approved by the Owner's Representative and the Owner, will be paid for in the manner hereinafter described and the compensation thus provided shall be accepted by the Contractor as payment in full for all labor, materials, tools, equipment and incidentals, and all superintendents' and timekeepers' services, all insurance and all other overhead expense incurred in the prosecution of the extra work. Payment for extra work will be made by one or more of the following methods:

- (a) Unit prices agreed upon by the Owner's Representative and the Contractor and approved by the governing body of the Owner in writing, before said work is commenced, subject to all other conditions of the contract;

- (b) A lump sum price agreed upon by the Owner's Representative and the Contractor and approved in writing by the governing body of the Owner before said work is commenced, subject to all other conditions of the contract;
- (c) The actual cost including labor, materials, tools, equipment and field supervision of such extra work plus fifteen percent (15%); said 15% understood and agreed to be full compensation for all overhead expenses and profits, when agreed upon by the Owner's Representative and the Contractor, and approved in writing by the governing body of the Owner before said work is commenced; subject to all other conditions of the contract.

The Contractor shall, on or before the 10th day of the month succeeding that in which any extra work shall have been performed, file with the Owner's Representative his claim and an account giving the itemized cost of such work and shall give the Owner's Representative access to all accounts, bills and vouchers relating thereto.

108.05 PAYMENT PROCEDURES. The Contractor shall submit an Invoice or Application for Payment for work completed as of the date of the Invoice or Application. All payments made by the Owner are subject to procedures established for the governing body of the Owner to authorize payment at its regularly scheduled meetings.

Invoice or Application for Payment must be received in the Public Works Director's Office no less than ten (10) business days prior to the regular meeting at which authorization for payment is to be requested.

Retainage shall be withheld from all progressive payments in accordance with Oklahoma Statutes.

Upon final completion and acceptance of the work, including all submittals, the Owner shall pay the remainder of the Contract price, subject to the procedures as noted in this section.

It is understood that payments will be subject to correction in the payment rendered following discovery of an error in any previous payment and such payment shall not in any respect, be taken as an admission by the Owner of the amount of work done or of its quality or sufficiency nor as an acceptance of the work or the release of the Contractor of any of his responsibility under the contract.

108.06 PAYMENTS WITHHELD. The Owner's Representative may withhold or, on account of subsequently discovered evidence, nullify the whole or a part of any payment to such extent as may be necessary to protect the Owner from loss on account of:

- (a) Defective work not remedied;
- (b) Claims filed or reasonable evidence indicating probable filing of claims;
- (c) Failure of the Contractor to make payments properly to subcontractors or for materials or labor;
- (d) A reasonable doubt that the contract can be completed for the balance then paid;
- (e) Damage to another Contractor.

When the above conditions are remedied, payment shall be made for amounts withheld as a result of such condition.

108.07 STATE SALES AND USE TAX. Under the terms of contracts established between the City of Chickasha and the Contractor, the Contractor will be appointed agent for the City of Chickasha, Oklahoma, for the purpose of the tangible personal property purchased or rented for the project. Legal title to all tangible personal property purchased, and the right to direct the use of all tangible personal property rented by Contractor shall pass directly from the vendor to the City of Chickasha. Upon passage of title, all of such property will be included in the project owned by the City of Chickasha. Title to all such property shall pass to the City of Chickasha from the vendor. All such property procured under the terms of contracts established between the City of Chickasha and the Contractor is exempt from Oklahoma sales and use taxes and/or City sales taxes. Contracts established between the Chickasha Municipal Authority and the Contractor shall not provide for sales and/or use tax exemption.

108.08 ACCEPTANCE AND FINAL PAYMENT. Whenever the improvement provided for by the contract shall have been completely performed on the part of the Contractor, and all parts of the work have been approved by the Owner's Representative and accepted by the Owner a final pay request showing the value of the work will be prepared by the Contractor as soon as the necessary measurements and computations can be made. All prior pay requests, upon which payments have been made, are subject to necessary corrections or revisions in the final payment. The amount of this pay request, less any sums that have been deducted or retained under the provisions of the contract, will be paid to the Contractor as soon as practicable after the final acceptance, provided the Contractor has furnished to the Owner satisfactory evidence that all sums of money due for any labor, materials, apparatus, fixtures or machinery furnished for the purpose of such improvement have been paid or that the person or persons to whom the same may respectively be due have consented to such final payment.

The acceptance by the Contractor of the last payment, as aforesaid, shall operate as and shall be a release to the Owner from all claims of liability under the contract for anything performed or furnished or relating to the work under the contract or for any act or neglect of Owner relating to the contract.

108.09 FINAL MEASUREMENT AND FINAL PAY REQUESTS. Final measurement will be taken and final pay requests compiled as soon as work has progressed to a point where the final measurements may be taken accurately.

108.10 This contract, and all documents incorporated herein by reference or executed in connection herewith, are intended solely to govern the relationship between the Contractor and the Owner and their mutual obligations in respect to the subject of the contract. To that end, no provision of this contract, or of any document mentioned above, shall be interpreted or given legal effect to create an obligation on the part of the Owner to third persons, including by way of illustration but not of exclusion, sureties upon performance bonds, payment bonds, or other bonds; assignees of the contractor; subcontractors; and persons performing labor, furnishing material, or in any other way contributing to or assisting in the performance of the obligations of the Contractor; nor shall any such provisions be interpreted or given legal effect to afford a defense against any obligation owed or assumed by such third person to the Owner or in any way to restrict the freedom of the Owner to exercise full discretion in its dealing with the Contractor.



**RFP CMA-2401
WATER MAIN CONSTRUCTION
ADA SIPUEL AVENUE AT UNION PACIFIC RAILROAD**

CHICKASHA MUNICIPAL AUTHORITY

CHICKASHA, OKLAHOMA

TECHNICAL SPECIFICATIONS

Prepared by:



CHISHOLM TRAIL CONSULTING, LLC

CA 7771
2124 Scott Lane
Duncan, Ok 73533
580-467-8130
rscottv11@gmail.com



Randall Scott Vaughn, OK P.E., 15194

November 29, 2023
Date

**RFP CMA-2401
WATER MAIN CONSTRUCTION
ADA SIPUEL AVENUE AT UNION PACIFIC RAILROAD
TECHNICAL SPECIFICATIONS**

TABLE OF CONTENTS

<u>SECTION</u>	<u>NO. PAGES</u>
<u>TECHNICAL SPECIFICATIONS – WATER MAIN CONSTRUCTION</u>	44
<u>TECHNICAL SPECIFICATIONS – SUPPLEMENT LARGE WATER MAINS</u>	8
<u>TECHNICAL SPECIFICATIONS – PRESSURE-REDUCING VALVES (PRV)</u>	2



Chickasha Municipal Authority, Oklahoma

RFP CMA-2401 WATER MAIN CONSTRUCTION SPECIFICATIONS

TABLE OF CONTENTS SECTION 500 **WATER MAIN CONSTRUCTION**

SECTION 500 – CONSTRUCTION REQUIREMENTS	1
SECTION 505 – PIPE AND FITTINGS INSTALLATION	7
SECTION 510 – WATER SERVICE LINE CONNECTIONS	10
SECTION 511 – WATER SERVICE LINES.....	13
SECTION 512 – NOT USED	
SECTION 513 - WET CONNECTIONS.....	14
SECTION 514 – TAPPING CONNECTIONS	15
SECTION 515 – NOT USED.....	
SECTION 516 – FIRE HYDRANTS.....	16
SECTION 517 – NOT USED	
SECTION 518 – THRUST BLOCKS	19
SECTION 519 – BLOW-OFF CONNECTIONS	19
SECTION 520 – WATER VALVES.....	20
SECTION 521 – VALVE BOXES	22
SECTION 522 – HYDROSTATIC PRESSURE TESTING	22
SECTION 523 – DISINFECTION	23
SECTION 524 – DUCTILE IRON PIPE (DIP).....	24
SECTION 525 – POLYVINYL CHLORIDE (PVC) PIPE.....	28
SECTION 526 – TRACE WIRE INSTALLATION.....	30
SECTION 527 – BORING	32
SECTION 528 – STEEL CASING PIPE	33
SECTION 529 – HIGH DENSITY POLYETHYLENE (HDPE) PIPE.....	34
SECTION 530 – NOT USED	
SECTION 532 - TAPPING SLEEVES	44
SECTION 533 – TAPPING CLAMPS.....	45

SECTION 500 – WATER MAINS

SECTION 500 – CONSTRUCTION REQUIREMENTS

500.01 – DESCRIPTION

This section covers general requirements for construction of water lines and appurtenances as described herein. The intent of these specifications is to provide for complete installation including materials, labor and equipment necessary to complete the work. These specifications shall apply to water mains with nominal diameter of 6" through 12" only.

All design, materials, construction, sampling and testing shall comply with ODEQ rules and regulations and AWWA Standards. ODEQ rules and regulations found at OAC 252:626, latest addition, shall govern. Construction compliance shall specifically include, but not will not be limited to, compliance with paragraphs 252:626-19-2 (h) (1) and (2) regarding horizontal and vertical separation between water mains and contamination sources. That is, maintain 1) at least 10 feet horizontally between the water main and any existing or proposed sanitary sewer mains and 2) at least two (2) feet vertically between the water main and any existing or proposed sanitary sewer mains. In the event these separation distances cannot be maintained, refer to the plans for details regarding installation.

The work to be done under this contract consists in general of the installation of pipe, fittings, specials, valves, and other pipe line appurtenances, shall include unloading such material at the point of delivery, hauling, distribution and installation thereof; the furnishing and installation of all jointing materials, gate valves, air valves and appurtenances, structures, concrete and all other materials required by the plans and specifications; making all specified and necessary connections with existing mains; making all required tests; restoration of all roadways, streets, driveways, sidewalks, crosswalks, and street crossing surfaces, and replacement or repair of all drains, sewers, conduits, water, oil and gas lines, fences, culverts, bridges and other structures which may be damaged in the prosecution of the work; maintenance of traffic across sites of the work where required, with all necessary barricades, lights and other safety provisions; making of all repairs to coatings and linings of pipe under the supervision of a representative of the pipe manufacturer; and the performance of all other work required by the plans and as specified herein.

500-02 - EXCAVATION AND BACKFILLING

- A.) DEFINITION – The terms “excavation” and “trenching”, as used herein or in any other reference to the work under contract shall refer to and mean any and all material excavated, for whatever purpose, in accordance with the terms of the specifications, plans, proposal and contract, and shall include all subsequent handling, backfilling, compacting, disposal of excess excavation materials, and the preparation of all sub-grades, etc., necessary for a first-class job.
- B.) EXCAVATION WORK – Excavation work shall include clearing and preparation of the trench or excavation size, including the removal of all surface vegetation, stumps and debris; all sheeting, shoring, bracing, protection of adjacent property, preparation of all sub-grades, storage of excavated materials off of the excavation site where necessary, backfilling, tamping and otherwise compacting of backfill and specified embankments, grading and surfacing; moving, hauling or otherwise transporting excavated materials from whatever source, where materials are to be returned to the excavation site for backfill purposes, as directed by the Engineer; and all other excavation stipulated in this specification.

C.) CLASSIFICATION OF EXCAVATION – There shall be no classification of excavated materials (except as otherwise provided for in the proposal) and the term “excavation” shall include all materials excavated or removed on the several sites of the work regardless of the type, character, composition or condition of the materials so excavated; and shall further include all debris, junk, broken concrete and all other materials within the excavation limits.

D.) PIPE TRENCH EXCAVATION – Pipe lines shall be installed to the alignment, grades and elevations shown on the drawings. Grade and alignment of pipe and pipe sub-grades will ordinarily be obtained from offset (hub) stakes. Trenches shall be dug by means of a backhoe, trackhoe or trenching machine wherever practicable. The use of any other type of power excavating equipment such as drag line or power shovel will not be permitted except with special authorization by the Engineer and under such requirements relative to uniformity of trench width and vertical trench banks as they may require. Hand digging will be required where the operation of trench digging machinery will damage trees, buildings, surface or subsurface structures.

The minimum width of trench cut for each size of pipe shall be as follows:

<u>SIZE OF PIPE</u>	<u>WIDTH OF TRENCH</u>
6"	20"
8"	22"
10"	24"
12"	28"

The trenching machine shall be maintained on a sufficiently level roadbed to provide substantially vertical trench walls. The maximum horizontal offset of the trench bottom from the trench top (undercutting) shall be two inches.

E.) Where soft foundation is encountered in the trench bottom, the Contractor shall excavate below grade and provide either a gravel cushion or a concrete cradle for the purpose of supporting the pipe, as directed by the Engineer.

F.) All bell holes shall be of ample size

G.) All excavated materials shall be deposited on the sides of trenches at such a distance that no additional load due to surcharge is placed on the bank, and shall also be deposited or moved after original deposit in such a manner that the pipe laying crew and the public, when the trench is in highway or city streets, will be inconvenienced as little as possible.

H.) It will be the Contractor's responsibility to maintain the trench banks in a stable and vertical position by use of all necessary bracing or sheeting required for safety.

I.) The Contractor will be required to keep the pipe trenches free from water and shall keep the natural ground water table or surface not less than four (4) inches below the elevation of the finished sub-grade, from the time the sub-grade preparation is started until the pipe has been backfilled. No work shall be done in trenches after rough excavation is completed if the sub-grade is submerged or within four (4) inches of ground water. All water removed in the dewatering of trenches and other excavations shall be disposed of in a satisfactory manner.

The Contractor shall be liable for all damages to private property caused by such disposal of water.

- J.) **Rock Excavation** – In rock excavation, the Contractor shall over-excavate six (6) inches and place 6 inches of screenings in the trench upon which the pipe is laid. The Contractor shall further backfill over pipe with same or earth free from stone or rocks, to a depth of 6 inches.
- K.) **BACKFILLING TRENCHES.** Except where water mains lie under drives, streets, or alleys, backfill shall be brought up around the pipe in six inches (6") loose measurement layers from materials selected from the trench excavation, compacted by means of mechanical or hand tampers to twelve inches (12") above the top of the pipe, compaction shall be to ninety percent (90%) standard proctor density. Where water main crosses under drives, streets or alleys, the backfill shall be brought up from the point twelve inches (12") above the pipe as outlined above in six inch (6") layers compacted by mechanical or hand tampers to a minimum of ninety (90%) standard proctor density with the exception that the top twelve inches (12") the backfill under the drive shall be compacted to ninety-five percent (95%).

Where the main crosses or lies within the paved portion of a street or alley, special construction details as shown on the plans shall govern. In open areas the back fill from the point twelve inches above the top of the pipe shall be placed within the trench by either hand or machine method and the top of the trench shall be left slightly mounded to allow for future settlement. All tamping and backfill shall be to the approval of the Engineer. In compacted backfill driveways, streets, or alleys, the backfill shall extend three feet (3') on each side of the driveway, street or alley.

- L.) **DISPOSAL OF EXCESS EXCAVATION MATERIALS.** In general, excess excavated materials from trenches located in open fields and unimproved property will be distributed directly back over the pipe line and within the pipe line right-of-way, to a maximum depth above the original ground elevation at any point of six (6) inches, at and across the trench, and sloping uniformly each way therefrom. Materials so wasted shall be carefully finished with a drag or blade machine to have a neat and uniform appearance without obstructing drainage at any point.

Except as stated in the above paragraph, all excess excavated material remaining after final settlement of the trenches has occurred shall be removed and disposed of by and at the expense of the Contractor, and to the satisfaction of the Engineer.

- M.) **REPLACEMENT OF SOD.** Where shown on the plans, the Contractor shall replace sod removed or destroyed in the excavation of pipe trenches with new sod of a quality and condition and from a source approved by the Engineer. All such sod furnished shall be equal to or better than the original sod removed. Sod replaced shall be kept watered for a period of one month after installation.
- N.) **TREES AND SHRUBBERY.** The Contractor shall use every possible precaution to prevent injury to trees and shrubbery on and adjacent to the site of work. He shall replace, at his own expense, any such trees or shrubbery damaged or destroyed by him, unless the removal thereof is required by the plans or is authorized by the Engineer. When tree roots one and one-half inches (1 ½") or larger are encountered in making the excavation the roots are not to be cut. Hand excavation shall be used, and any damaged root or roots 1 ½" or larger shall be treated with a creosote paint as directed by the Engineer.

O.) LENGTH OF DITCH TO BE OPENED. In no case shall more than three hundred (300) feet of ditch be opened at one time in advance of the pipe laid, without consent of the Engineer.

P.) DRIVEWAYS. When the water main passes underneath any private driveway, tunneling shall not be used, unless special permission is given by the Engineer. Driveway pavement shall be saw cut to the pipe trench width to allow the main to be laid and for the proper backfilling of the ditch. After the main is laid and ditch is properly backfilled, the driveway shall be restored to as good a condition as found. See standard detail drawings.

Where driveways are cut to private residences, they shall be cut, the pipe installed, and trench properly backfilled all in the same day.

Where the water main passes underneath any private or public driveway, where the driveway is used for parking cars such as at shopping centers, large business buildings, stores, etc., the Contractor shall confer with the Engineer for an approved method of procedure in doing work in order to minimize the interference of traffic to and from the parking area.

Q.) PUBLIC STREETS AND ROADS. All public streets and roads which are closed to traffic, under authority of proper permit, shall be protected in accordance with the requirements of the authority having jurisdiction over the street or road by means of effective barricades on which shall be placed acceptable warning signs.

Materials stored upon or alongside public streets and highways shall be so placed and the work at all times shall be conducted so as to cause the minimum obstruction and inconvenience to the traveling public.

All barricades, signs, warning lights and other protective devices shall be installed and maintained in conformity with applicable statutory requirements.

500.03 – MATERIALS CERTIFICATIONS

The Contractor, in all cases, shall furnish required samples without charge. A laboratory approved by the City shall perform all tests. When the Standard Specifications require testing of prefabricated products or any other materials, the City Engineer may waive local testing requirements in lieu of a certification from the manufacturer that the material or product furnished conforms to the appropriate Specifications as called for in the Standard Specifications.

GENERAL REQUIREMENTS

The Contractor shall be responsible for obtaining all certifications and arranging for their delivery to the proper destinations as required by this specification. A responsible representative of the company that issues the certification shall sign materials certifications. The official company title of the signer must be clearly shown immediately beneath the Contractor's signature.

All certifications shall be furnished in duplicate and each copy shall show the following information:

- A) City's Project Name or Number
- B) Name of Contractor
- C) Identification Markings on Shipment
- D) Quantity of Material Represented by the Certification

When certified mill tests are submitted as a Type A certification the quantity information need not be

furnished provided that the identifying heat number is permanently rolled, stamped or otherwise permanently affixed to each individual piece of material in the shipment covered by the certification.

TYPES OF CERTIFICATIONS

Unless otherwise specified, a certification shall be one of the following types:

A) Type A certification shall be prepared by the manufacturer and shall consist of a certified copy of a report covering tests conducted by an approved laboratory. Such tests shall have been conducted on samples obtained from the lot or lots of material in the shipment.

B) Type B certification shall consist of a certification prepared by the manufacturer and shall show the limits of test values as determined by an approved manufacturer's laboratory, a qualified commercial laboratory or other approved laboratory.

C) Type C certification shall be prepared by the manufacturer and shall certify that the material in the shipment conforms to the same formula and/or is essentially the same as the material previously approved by the City Engineer.

D) Type D certification shall be prepared by the manufacturer and shall state that the materials meet the applicable Specifications. These Specifications shall be listed by number, section reference or other appropriate identification acceptable to the City Engineer.

DISTRIBUTION OF CERTIFICATIONS

Certifications shall be mailed in triplicate to the Public Works Director and the Engineer designated by the Public Works Director.

These certifications will be checked for conformance with the applicable Specifications.

BASIS OF ACCEPTANCE

Whenever a certification as defined above is required or requested by the City Engineer, such material may be accepted on the basis of certification provided that all applicable requirements are met. Visual inspection at delivery and installation will also be used to verify the Workmanship and condition of the material to be satisfactory.

All material furnished under certification shall be tagged, stenciled, stamped or otherwise marked with a lot number, heat number, order number, or other appropriate identification which can be readily recognized and checked against the certification. Material accepted on certification shall not be incorporated in the Work until the City Engineer has approved the certificates.

STORED MATERIALS

Stored materials shall be located and protected to preserve their quality and fitness for the Work. Materials shall be placed on wooden platforms or other hard, clean surfaces and not on the ground and shall be placed under cover as required. Stored materials shall be located to facilitate prompt inspection. The City assumes no responsibility for materials located on the site or off-site. The Contractor assumes full responsibility for any damage or loss to any stored materials. No stored material shall be located off-site unless approved by the City Engineer. Material shall be insured prior to payment for stored materials.

All aggregates shall be handled in such a manner as to preserve their quality, gradation and fitness for the work. The provisions for transporting aggregates shall be such to assure a continuous and adequate supply of material to the work. Aggregate stockpiles shall be built up in such a manner that acceptable materials will be delivered to the plant or the Project. Aggregates from different sources and different gradations shall not be stockpiled together. The gradation requirements for the individual

stockpiles and proportioning from the stockpiles, shall be the responsibility of the Contractor. Aggregates that have become segregated, or mixed with earth or other foreign material, shall be considered unacceptable, and will not be utilized in the work until Contractor causes aggregate piles to be integrated, and all foreign materials to be removed.

500.04 – MISCELLANEOUS REQUIREMENTS

- A) All salvageable water pipe and fittings removed from the existing water mains and not re-used during construction of the new water mains shall remain the property of the City of Chickasha.
- B) Contractor shall remove and reset existing mailboxes as necessary during construction to avoid damaging them during the work. Contractor shall relocate the mailboxes to maintain access by the mail carrier and residents at all times. Contractor shall relocate mailboxes to original location after water main construction is complete. Cost to be included in the price bid for other items of work.

Any excavation within street right-of-way shall be backfilled with soil, temporary construction entrance materials and/or permanent pavement within 72 hours of starting such excavation. The applicant shall ensure that any water that accumulates within any excavation within street right-of-way that has not been backfilled shall be removed by pumping or other approved means within 24 hours of the beginning of such accumulation.

- C) All concrete used in making pavement repairs shall be Class A (HES), meeting the requirements of 2009 ODOT Standard Specifications. All concrete used in making sidewalk repairs shall be Class C, meeting the requirements of 2009 ODOT Standard Specifications. All asphalt used in making pavement repairs shall be Type B Asphalt meeting the requirements of ODOT Standard Specifications. TBSC Type E meeting 2009 ODOT Standard Specifications shall be used to repair gravel driveways. All repairs shall be made in accordance with City of Chickasha standard detail drawings.
- D) When water main shut down is required, CONTRACTOR shall coordinate the shut-down with OWNER'S water department staff and shall give a minimum 72-hour notice to said staff and the Public Works Director. OWNER'S water department staff will be responsible for operation of all valves which require closing.

500.05 – PROGRESS OF CONSTRUCTION

The Contractor shall work at enough different locations to complete the entire contract within the time limit specified. Water Line appurtenances shall be constructed as soon as the Water Line that they serve is constructed. Postponing the construction of appurtenances until the Water Line has been completed, or the building of appurtenances in advance of the construction of the Water Line, will not be permitted.

- A) The construction of Water Lines for more than six hundred feet (600') in advance of appurtenances which are incomplete or the construction of which has not been started, will not be permitted.
- B) All water lines that are to be abandoned in place shall be cut to the nearest connections and either capped or plugged as required to provide a tight connection. The Contractor shall be responsible for providing the appropriate plug or cap for the job. The cost of this work is considered incidental.

500.06 – DELIVERY OF MATERIALS

Construction materials shall not be delivered to the site of the work more than three (3) days in advance of their anticipated use nor shall the quantity of pipe or other materials on hand at the site of the work at any time be in excess of the amount required to complete six hundred feet (600') of Water Line unless with special permission of the Engineer.

500.07 – SURFACE DRAINAGE STRUCTURES

Unless otherwise specified or called for on the plans, all surface drainage structures and appurtenances shall not be disturbed.

500.08 – CONCRETE

Unless otherwise approved by the Engineer, all concrete used in construction of waterlines and their appurtenances shall be High Early Strength Concrete and shall have a minimum three (3) day compressive strength of three thousand five hundred pounds per square inch (3,500 psi). It is recognized that some situations may occur in which different requirements may be more suitable for completion of the work. The contractor shall receive approval from the Engineer prior to proceeding with the work in such situations.

500.09 – DEPTH OF COVER

Where not otherwise indicated on plans, the pipe shall be laid at an elevation that will provide after completion, a minimum depth of cover over the top of pipe of forty-eight (48) inches below the surface.

500.10 – STANDARD DESIGN CONDITIONS

A) **Standard Design Pressures** - Unless otherwise specified, all pipes and fittings shall be designed for the following minimum pressure conditions:

Minimum Internal Pressure (psi)		
Working	Surge	Design
150	100	250

B) **Live Loading** - Unless otherwise specified or called for on the plans, minimum pipe design corresponding to the specified design pressure shall be for highway live loading condition and where waterline is crossing or running parallel to the railroad, corresponding minimum pipe design for railroad live loading condition shall govern (with or without casing).

C) Water main pipe materials shall be ductile iron pipe (DIP) or polyvinyl chloride (PVC) pipe. All water main pipe shall be new.

500.11 – CLEAN-UP

Clean-up operations shall follow excavation and construction a distance not to exceed six hundred feet.

SECTION 505 – PIPE AND FITTINGS INSTALLATION

505.01 – DESCRIPTION

This section covers installation of pipes in open cuts, in conformity with the lines, grades, and dimensions and as provided in applicable sections of these specifications.

505.02 – MATERIALS

505.02.01 – PIPE AND FITTINGS

Acceptable pipe materials and fittings shall meet the requirements of the appropriate sections listed below:

Pipe Material	Section
Ductile Iron Pipe (DIP)	524

Polyvinyl Chloride (PVC) Pipe	525
High Density Polyethylene (HDPE) Pipe	529

All pipe and fittings shall be new.

505.02.02 – EMBEDMENT

- A) **General** -Embedment material shall be 3/8" screenings. Prior to delivery, the Contractor shall submit laboratory sieve analysis test reports for materials to be used for embedment. Materials shall be approved by the Engineer prior to placement.
- B) **Delivery Tickets** - The Contractor shall submit delivery tickets for the purpose of verifying use of minimum quantities necessary to complete installation pursuant to the appropriate standard details and the minimum dimensions specified.

505.04 – CONSTRUCTION METHODS

- A) **Polyvinyl Chloride (PVC) Pipe** – All PVC pipe shall be embedded in accordance with ASTM D-2274, "Standard Recommended Practice for Underground installation of Thermoplastic Pressure Piping", and ASTM D-2321, "Standard Recommended Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe", and as shown on Detail "Typical Bedding and Trench Detail for PVC Pipe" and meeting the requirements of Section 525.
- B) **Ductile Iron Pipe (DIP)** – All ductile iron pipe shall be embedded as shown on Detail "Typical Bedding and Trench Detail for Ductile Iron Pipe.
- C) **High Density Polyethylene (HDPE)** pipe if laid by direct burial shall be embedded as directed by the Engineer; if place by the directional drilling method, no embedment is required.

505.04.01 – Place blue polyethylene Underground Warning Tape over all water mains. Warning tape shall have black lettering stating "Caution Buried Water Line Below" imprinted on it. Use 6-inch wide tape. See standard drawings for placement location.

505.04.02 – INSTALLATION REQUIREMENTS

- A) **Shipping, Handling and Storage** -Pipe shall be transported from the plant, where it is manufactured, to the job site employing special methods of packaging to prevent damage to the pipe. After the pipe is received at the job site, it shall be carefully inspected for any damage that may have occurred in transit. The pipe shall be handled at all times with care using padded slings or hooks. The pipe shall not be dropped, skidded or rolled against pipe already on the ground. If any damage occurs to pipe, the pipe shall be rejected. All pipe and accessories shall be stored on flat, level ground with no rocks or other objects under the pipe. Gaskets for push-on joints and pipe shall be stored in cool location out of direct sunlight in accordance with the manufacturer's recommendations.
 1. Pipe, fittings, specials, and other accessories shall be unloaded at the point of delivery, hauled to and distributed at the site of the project by the Contractor, and shall at all times be handled with extreme care to avoid damage thereto. Equipment, tools and methods used in unloading, reloading, hauling, and laying pipe and accessories shall be such that no damage is done to the pipe or any lining therein.

2. Cement lining in pipes or fittings which is broken or loosened in unloading or subsequent handling shall be repaired by and at the expense of the Contractor, under the direct supervision of the representative of the pipe manufacturer. All outside pipe coating which is damaged by the contractor shall be repaired, prior to laying the pipe or placing the backfill, by removing all damaged coating, wire brushing the exposed metal, and applying two coats of a permanently elastic coal tar paint of a type and quality equal to that used in originally coating the outside of the pipe and preferably of the same brand and formula. This paint shall be sufficiently hard before backfilling so that it will not be damaged thereby.
3. Pipe lines shall be accurately installed to the alignment and profile indicated on the approved pipe installation drawings furnished for the purpose. Grades and elevations shall be determined by the pipe sub-grade prepared as specified.
4. The maximum deflection of any pipe joint, made necessary by vertical and horizontal curves or offsets, shall not exceed the amount as recommended by the manufacturer of the pipe.
5. PLACING PIPE IN TRENCH. Proper equipment, implements, tools, and facilities satisfactory to the Engineer shall be provided and used by the Contractor for the safe and convenient prosecution of the work. All pipe, fittings, hydrants and valves shall be carefully lowered into the trench, piece by piece, by means of cranes, derricks, tongs, slings, ropes or other suitable tools and equipment, in such a manner that no damage occurs to the pipe, pipe coating, pipe lining or to the trench sub-grade. Under no circumstances shall pipe or accessories be dropped or dumped into the trench.
6. PIPE TO BE KEPT CLEAN. All earth, rubbish, dirt and other foreign matter shall be removed from the inside of all pipe and other appurtenances (and from the outside of the spigots), before lowering into the trench, and shall be kept clean by approved means during and after laying. At times when pipe laying is not in progress, all open ends of pipe and fittings shall be closed by approved means, and no trench water shall be permitted to enter the pipe.
7. INSPECTION OF PIPE. Before lowering, and while still suspended, the pipe shall be inspected for defects. Any defective, damaged or unsound pipe shall be rejected.
8. CUTTING PIPE. Cutting of pipe for closure pieces or for other reasons shall be done in a neat and workmanlike manner by a method which will not damage either the pipe or the pipe lining.

B) **Pipe Foundation** - No waterline shall be laid unless the foundation is in a condition satisfactory to the Engineer. Where trenches are excavated in soft, unsuitable, or rock material, trench bottom shall be stabilized as directed by the Engineer.

C) **Laying Requirements** -All pipes, specials, fittings and other appurtenances shall be examined carefully for damage and other defects before installation. The City retains the right to reject damaged and defective materials.

The pipe ends shall be free of all lumps, blisters and they shall be wiped clean of foreign materials such as dirt and sand before installation.

Pipe shall be laid with the bell ends facing in the direction of laying unless directed otherwise by the Engineer. Where pipe is laid on a slope of ten (10%) percent or greater laying shall start at the bottom and proceed up the slope.

When laying pipe is not in progress during the noon hour or overnight, the open ends of the pipe shall

be closed by watertight plugs. If water is in the trench the plugs shall be left in place until the trench is pumped dry.

Bell holes for bell-and-spigot pipe shall be excavated at proper intervals so that the barrel of the pipe will rest for its entire length upon the bottom of the trench. Bell holes shall be large enough to permit proper installation of pipe. Bell holes shall not be excavated more than ten (10) joints ahead of pipe laying. Filling and ramming earth or other material beneath the pipe to raise it to grade shall not be permitted.

The Contractor shall use every precaution at all times during construction of the pipeline. All pipe, specials, fittings, and other appurtenances shall be lowered carefully into the trench with suitable equipment, to prevent damage to the waterline materials. In rock trenches, plywood shields or other approved means shall be used to prevent the cradled pipe from swinging against the sides of the trench.

All joint preparation and joining operations shall comply with the instructions and recommendations of the pipe manufacturer and meet the joint requirements in the appropriate material section. Rubber gaskets shall be positioned on the joint in accordance with the manufacturer's recommendations. Immediately before joints are pushed together, all joint surfaces shall be coated with the lubricant furnished with the pipe.

Any damage to the pipe, from any cause during installation of the pipeline shall be cause for replacement, as directed by the Engineer, and at the expense of the Contractor.

After a section of pipe is properly installed and approved for backfill, the trench shall be backfilled and compacted.

505.06 – METHOD OF MEASUREMENT

Payment for "Water Line" shall be made at the unit price bid per lineal foot of pipe installed for each size. The price established shall be full compensation for all materials including pipe, short pieces and specials, trench excavation, embedment material, backfilling, labor, tools, equipment and incidentals necessary to complete this item of work. "Water Line" shall be measured along the pipe.

Payment for fitting shall be paid for by the pound. The price established shall be full compensation for all materials including fittings, trench excavation, backfilling, embedment material, concrete thrust blocks, labor, tools, equipment and incidentals necessary to complete this item of work.

505.07 – BASIS OF PAYMENT

(SIZE) (TYPE) WATERLINE	L.F.
FITTINGS	LB.

Such payment shall be compensation in full for furnishing all materials, labor, equipment, tools and incidentals, and for performing the work in accordance with these specifications.

SECTION 510 – WATER SERVICE LINE CONNECTIONS

510.01 – DESCRIPTION

510.01.01 – GENERAL

This section covers water service line connections in sizes five-eighths inch (5/8") through two inches (2") for use in buried service lines from the main to the meter valve or meter setting appurtenance in accordance with ANSI/AWWA C-800 Standard for Underground Service Line

Valves and Fittings or as modified herein. All water service lines and connections shall be installed as per city ordinances and standards.

510.01.02 – DEFINITIONS

The following definitions shall apply:

- A) **Adapter** -A fitting used to connect pipe, tubing, or other fittings with differing characteristics such as sizes, diameters, or material type.
- B) **Chamfer** - A bevel made on the end of a thread to facilitate thread engagement.
- C) **Corporation valve (stop)** - A valve attached to the water main to start a service connection, which is used to interrupt flow during installation or maintenance of the service line.
- D) **Coupling** - A fitting for connecting two pipes or tubing sections together.
- E) **Curb valve** -A valve installed in the water service line and accessible for operation from the surface of surface of the ground for routinely interrupting flow through the service line.
- F) **Driving thread** - A thread installed on the outlet end of corporation valves and used to hold the valve during installation.
- G) **Dry seal** -A type of pipe thread covered by ANSI/ASME B1.20.3. Dryseal pipe threads are based on the USA (American) pipe thread. They differ from the USA (American) pipe thread in that they are designed to seal pressure-tight joints without the need for sealing compounds.
- H) **Fitting** - A part used to connect piping or tubing.
- I) **Inlet** - The opening in a valve or fitting through which flow from the water main enters the valve or fitting.
- J) **N.P.T.** - National Pipe Thread as specified in ANSI/ASME B1.20.1.
- K) **Outlet** -The opening in a valve or fitting through which flow from the water main leaves the valve or fitting.
- L) **Tapping Clamp** - A fitting that attaches circumferentially to a pipe to provide for attachment of a corporation valve.

510.02 – MATERIALS

Fitting and valve materials in contact with potable water shall be copper or brass. No more than a weighted average of 0.25% of the wetted surface of pipes, pipe fittings, plumbing fittings and fixtures shall contain lead.

All service lines shall be seamless CTS pressure pipe meeting ANSI/AWWA C-901 and ASTM D2737. All corporation stops, curb stops and inlets and adapters shall be Mueller brand or approved equivalent Brass Fittings, unless noted otherwise. All service line installations, taps and connections shall comply with the City of Chickasha standards.

Component Parts - Component parts such as fasteners, seals, and packing may be of other materials selected for adequate endurance, corrosion resistance, and strength.

510.02.01 – DESIGN OF VALVES AND FITTINGS

General - Valves, fittings, and parts thereof shall be machined to the sizes and tolerances defined in

AWWA C-800. End connections shall be designed for the type of service line.

Pressure Rating - Service line valves and fittings shall be suitable for use with water at one hundred (100) degree F and one hundred fifty pounds per square inch pressure. (150 psi)

510.02.02 – DETAILED DESIGN OF VALVES AND FITTINGS

Dimensions of Corporation Valves:

A) **General** -Corporation valves shall be installed with drilling or tapping machines. Unless otherwise specified, the minimum inside diameter of the waterway through a corporation valve shall be large enough to accommodate the maximum drill sizes herein. Maximum drill sizes for installation of corporation valves and service clamps or saddles with a driving machine shall be as shown below.

Corporation Valve Size (inches)	Maximum Drill Size	
	Corporation Valve with AWWA Thread inlet	Corporation Valve with N.P.T Thread Inlet
¾	1 1/16	1 1/16
1	1 5/16	1 5/16
1 ½	1 7/16	1 7/16
2	1 15/16	1 3/4

B) **Overall Body Dimensions** -For corporation valves to be installed by a tapping machine, overall body dimensions shall conform with the dimensions listed below.

Corporation Valve Size (inches)	Maximum Radius (inches)	Maximum Length (less nut) (inches)
¾	1.50	4
1	1.50	4
1 ½	2.50	9 1/16
2	2.50	9 1/16

C) **Tapping Clamps** -Tapping Clamps shall conform to the requirements of Section 533.

D) Service Line Fittings

a. **General** -The fittings used in service lines shall be designed for connection to the service line. Small waterways and abrupt corners causing water turbulence and pressure drop shall be minimized.

510.02.03 – END CONNECTIONS

End connections shall be in conformance with AWWA C-800.

510.04 – CONSTRUCTION METHODS

510.04.01 – GENERAL

The following are general connection requirements only. Additional plumbing code and other requirements may be applicable, which are not included herein.

- A) Single taps shall be made at forty-five degree angles (45°) from crown of distribution main.
When two (2) or more taps are to be made, they shall be a minimum of thirty-six (36") inches

apart and alternate from forty-five degrees (45°) to thirty degrees (30°) from crown of distribution main.

- B) Back/reverse tap may be allowed only under adverse conditions and only when approved by the Engineer.
- C) No tap shall be allowed on fire hydrant leads except under adverse conditions and only when approved by the Engineer.
- D) Direct taps shall be allowed into cast iron or ductile iron mains only.
- E) Tapping clamps shall be Mueller Single Section Servi-Seal All Stainless Steel Pipe Repair Clamps with integral CC Threaded service outlet, minimum 15" length or approved equal for three quarter inch (¾") to two inch (2") service line connections. Tapping clamp shall also conform with the requirement of Section 533. All other taps shall be accomplished using tapping sleeves in accordance with Section 532.
- F) When tapping clamps are installed a pressure test shall be performed. Tapping clamps shall hold a minimum of one hundred pounds per square inch (100 psi) of pressure for thirty (30) minutes.
- G) Service connections two (2") inches and smaller shall be by corporation valve (stop) of the same size as the service line and meter to be installed. Corporation valves shall be as specified in Section 510.02. Service connections to the main for service lines larger than two (2") inches shall be a branch connection.
- H) When tapping mains where it is necessary to remove part of the polyethylene wrapping, the polyethylene wrap shall be repaired or replaced in such a manner as to protect both the pipe and corporation valve. Any bedding material removed during excavation shall be replaced in kind and compacted.
- I) No tees shall be connected to existing water service lines three inches (3") and smaller in diameter providing water to a single meter of the same size.

510.04.02 – MATERIAL CERTIFICATION

Contractor shall provide a Type D certification for all materials used in service lines and service line connections.

510.05 – TESTING

Any valves or fittings found to be defective shall be replaced with new valves or fittings at the Contractor's expense.

510.07 – BASIS OF PAYMENT

All cost of service line connections shall be included in the price bid for water services.

SECTION 511 – WATER SERVICE LINES

511.01 – DESCRIPTION

511.01.01 – GENERAL

This section covers water service lines intended to be used from the connection to the meter valve for meter setting appurtenance in accordance with AWWA C-800 Standard for Underground Service Line Valve and Fitting or as modified herein. All water service lines shall be connected as per city ordinances.

511.01.02 – TYPES

Long Service (EA) is for one service line from the new water meter to a meter or meters on the opposite side of the street, irrespective of the number of meters served by one line. Short Service (EA) is for one service line from the new water main to a meter or meters on the same side of the street, irrespective of the number of meters served by one line.

511.02 – MATERIALS

All service lines shall be seamless CTS pressure pipe meeting ANSI/AWWA C-901 and ASTM D2737. All corporation stops, angle ball valves, curb stops and inlets and adapters shall be Mueller brand or approved equivalent Brass Fittings. All service line installations, taps and connections shall comply with the City of Chickasha Standards.

511.04 – CONSTRUCTION METHODS

The following are general construction requirements only. Additional plumbing code and other requirements may be applicable, which are not included herein.

A) Boring

1. Lines for all long services will be bored or punched under the existing road.
2. Service lines under street pavement shall not be spliced.
3. Street bores shall be a minimum of thirty (30") inches below the bottom of the street.
4. Service line bores shall be level.

B) Warning tape

Place blue polyethylene Underground Warning Tape over all service lines. Warning tape shall have black lettering stating "Caution Buried Water Line Below" imprinted on it. Use 6-inch wide tape.

511.06 – METHOD OF MEASUREMENT

The price established shall be full compensation for all materials including copper service lines, boring, fittings, connections to meter, labor, tools, equipment, and incidentals necessary to complete this item of work.

511.07 – BASIS OF PAYMENT

The items measured as provided above will be paid for at the contract unit price bid:

SHORT SERVICE (SIZE)	EA.
LONG SERVICE (SIZE)	EA.

Such payment shall be compensation in full for furnishing all materials, labor, equipment, tools and incidentals, and for performing the work in accordance with these specifications.

SECTION 513 - WET CONNECTIONS

513.01 – DESCRIPTION

This section covers wet connections for tie-in to existing mains. The connections shall be either a cross or tee as called for on the plans where tapping is not allowed.

513.04 – CONSTRUCTION METHODS

The wet connection shall begin with isolating the point of tie-in by closing of valves. The existing main shall then be cut where wet connection is to be made and the line drained. Contractor shall prevent all non-potable water and foreign materials from entering the water main by use of adequate pumps

and other necessary means.

513.06 – METHOD OF MEASUREMENT

"Wet Connection" will not be measured separately.

513.07 – BASIS OF PAYMENT

All cost of making wet connections shall be included in the price bid for fittings.

SECTION 514 – TAPPING CONNECTIONS

514.01 – DESCRIPTION

This section covers water main tapping for connections to existing water mains.

514.02 – MATERIALS

The following materials shall be used and meet the requirements of the appropriate Sections listed below.

Tapping Mechanism	Section
Tapping Sleeve	532
Tapping Valves	520.02.02

514.04 – CONSTRUCTION METHODS

A) Description - A tap is the cutting of a coupon, utilizing a tapping sleeve or saddle with tapping valve for a connection.

B) Methods

1. Direct taps -Direct taps shall be made when the main to be tapped is on the same horizontal plane as the branch. The cutting operation is to be done with a sharp shell-cutter tool, which shall be lubricated with the manufacturer's recommended cutting tool lubricant.

2. Swing Ties - Swing ties shall be made when the main to be tapped is either above or below the branch when called for on the plans or specified. A swing tie may consist of

- i. Waterline pipe
- ii. Tapping sleeve as necessary;
- iii. Tapping valve and Box;
- iv. Tap;
- v. Solid sleeve;
- vi. Forty-five degree (45°) bends.

514.06 – METHOD OF MEASUREMENT

Tapping Connection will not be measured separately.

514.07 – BASIS OF PAYMENT

All cost of making tap connections shall be included in the price bid for tapping valve with sleeve.

SECTION 516 – FIRE HYDRANTS

516.01 – DESCRIPTION

This section covers fire hydrants intended to be used for fire protection when specified or called for on the plans. The hydrant shall be located and positioned in such a way as to be accessible and protected from traffic.

516.02 – MATERIALS

516.02.01 – GENERAL

All fire hydrants furnished shall conform to AWWA C-502, as amended, or as modified herein. Fire hydrants shall be Mueller Super Centurion A-423, 3-way fire hydrant, 5 ¼" valve opening, 2-2 ½" hose nozzles, 1-4 1/2" pumper nozzle, 6" M.J. Shoe, red color, City of Chickasha threads or approved equal.

516.02.02 – SUBMITTALS

The Contractor shall provide three (3) copies of all submittals for fire hydrants. The submittal shall clearly identify the make, model, design, and metal characteristics for approval by the Engineer prior to installation.

Drawings shall show principal dimensions, metal thickness, construction details, materials used in all parts of the fire hydrant with ASTM designation and structural properties. Net assembled weight of hydrants shall be shown.

Specifications shall include comprehensive parts list with sufficient drawings or details to clearly identify parts.

516.02.03 – AFFIDAVIT OF COMPLIANCE

The Contractor shall provide an Affidavit of Compliance that fire hydrants furnished comply with all provisions of these specifications.

516.02.04 – TYPE OF SHUT-OFF

Type of shut-off shall be of the compression type with the flow.

516.02.05 – DELIVERY CLASSIFICATION

All hydrants shall be equipped with two (2) hose nozzles and one (1) steamer nozzle. Leaded in nozzles shall not be acceptable.

516.02.06 – INLET CONNECTION

Unless otherwise specified, the inlet connection shall be a mechanical joint hub complete with all joint accessories. All mechanical joint gland bolts shall be high strength, low alloy, corrosion resistant material, such as Cor-Ten or equal, as specified in ASTM A-252. The inlet valve opening shall be five and one-quarter (5¼") inches net.

516.02.07 – OUTLET CONNECTIONS

The outlet connections shall be two (2) hose nozzles, two and one-half inches (2½") in nominal I.D. 8-274 I.P. thread and one (1) pumper nozzle four and one-half inches (4 1/2") in nominal I.D. with NST threads.

516.02.08 – RESTRAINED JOINTS

Restrained Joints shall be furnished when specified or called for on the plans.

516.02.09 – NOZZLE CAP GASKET

Gaskets shall be furnished on all nozzle caps. Gaskets shall be neoprene.

516.02.10 – DRAIN VALVE AND OUTLET

A positive operating drain valve or valves shall be provided.

516.02.11 – PAINT

Fire hydrants shall be painted with two (2) coats of red enamel paint manufactured by Pittsburgh Paint or approved equal. Each coat of paint shall have a minimum dry thickness of two (2) mils.

516.02.12 – SHAPE AND SIZE OF OPERATING AND CAP NUTS

The operating and cap nuts shall be 1-1/2" Pentagonal nuts.

516.02.13 – BREAKABLE TYPE

Breakable type (traffic models) shall be furnished. A breakable type hydrant is one that requires no excavation and shall break at the design point.

516.02.14 – STAND PIPE, FLANGES, AND EXTENSIONS

Breakable parts of standpipe shall be located approximately three inches (3") but not more than five inches (5") above the ground line. These parts shall be of the breakable flange type, breakable coupling or integral flange with sawed bolts. Breakable flanges screwed to the standpipe shall not be accepted. The flange on each end shall have at least eight (8) bolts, or other acceptable method to permit proper orientation of nozzles in forty-five degree (45°) increments and shall be designed so that a wrench can be used on nuts and bolts. Extension of hydrant shall be made by adding at the ground line flange a new coupling and stem section equal to the length of the extension. Stem extensions made by adding new section of stem to the threaded section of the stem at the top of the hydrant shall not be acceptable.

516.02.15 – STEM

Provisions shall be made in the design of the stem to disconnect the stem from the hydrant parts above the standpipe break point in the event of traffic accidents.

516.02.16 – COUPLINGS

If breakable or sleeve type couplings are used, they shall have sufficient torsional strength such that a torsional failure of the stem shall occur at some point other than coupling. Design of the coupling shall be such that when the coupling is broken, no parts shall come loose and fall into hydrant, and the break shall not occur through the pins or bolts holding the coupling to the stem.

516.02.17 – GROUND LINE GASKETS

Gaskets furnished for ground line flanges shall be full face, or flange shall be recessed.

516.02.18 – MAIN AND VALVE SEATS

Main valve seats on the hydrant shall be of such design that incorrect positioning is impossible and

that the threads shall be adequately guided into position. Arrangements shall also be made to hold the main valve gasket in place during assembly. The main valve seat shall be made of bronze and threaded into a bronze retainer ring or it may be threaded into a heavy bronze bushing in the hydrant base. All bronze parts in constant contact with the water shall be of type "A", "D", or "E" bronze in accordance with Table 1, AWWA C-212.

516.02.19 – NOZZLE CAP CHAINS

All fire hydrants shall be equipped with nozzle cap chains.

516.02.20 – FLANGES

All flanges shall have a minimum thickness of seven-eighths inch (7/8"). Bolt hole edge distance shall be sufficient to provide full support for the bolt heads and nuts.

516.02.21 – OPERATING STEMS

Operating stems shall be high grade bronze, wrought iron or steel. Stem nuts shall be bronze. Where passing through O-rings, iron or steel stems shall have a bronze, stainless steel, or other non-corrodible metal sleeve. Operating threads shall be sealed against contact with water regardless of open or closed position of the main valve. An internal lubricant chamber shall be provided as a part of the dry top construction. An external access for adding lubricant shall be provided.

516.02.26 – O-RINGS

Fire hydrants shall be equipped with O-rings in lieu of stem packing.

516.02.27 – CAP NUTS

The hydrants shall have a cap nut to seal the bottom end of the stem threads against contact with water.

516.04 – CONSTRUCTION METHODS

516.04.01 – BURY LENGTH

Unless otherwise specified, hydrants shall be furnished with a depth of bury to match the water main depth.

516.04.02 – TAPPING OF DRAIN OPENING

Tapping of drain opening shall not be required.

516.04.03 – DIRECTION OF OPENING

The direction of opening shall be to the left or Counter-Clockwise. An arrow and the word "OPEN" shall be cast in relief to be clearly visible on the top of the hydrant, to designate the direction of opening. A minimum number of turns to open shall be ten (10).

516.04.04 – INSTALLATION

The hydrant shall be inspected and cleaned prior to installation. It shall be placed on a concrete mat not less than four inches (4") thick and sixteen inches (16") square. The rear side of the hydrant, opposite the pipe, shall be blocked with concrete between the hydrant and a vertical face of undisturbed earth. A minimum of seven (7) cubic feet of crushed rock shall be placed around and below the hydrant to allow the hydrant to properly drain. The hydrant shall be firmly supported prior to backfill.

516.05 – TESTING

Hydrostatic tests outlined in AWWA C-502 shall be complied with.

516.06 – METHOD OF MEASUREMENT

Payment for "Fire Hydrant Assembly" shall be made at the unit price bid per each. Price bid for "Fire Hydrant Assembly" shall be full compensation for equipment, labor and materials for complete and acceptable installation of a fire hydrant per City of Chickasha standards, including fire hydrant, TEE, Gate valve, extension pipe, riser pipe and up to five (5) linear feet of 6" diameter ductile iron pipe connection between fire hydrant and water main.

516.07 – BASIS OF PAYMENT

The items measured as provided above will be paid for at the contract unit price bid:

FIRE HYDRANT ASSEMBLY	EA.
-----------------------	-----

Such payment shall be compensation in full for furnishing all materials, labor, equipment, tools and incidentals, and for performing the work in accordance with these specifications.

SECTION 518 – THRUST BLOCKS

518.01 – DESCRIPTION

This section covers thrust blocks intended to be used to transmit unbalanced thrust forces into undisturbed soil.

518.02 – MATERIALS

High Early Strength Concrete shall be used for thrust blocks. Compressive strength of concrete shall be minimum 3500 psi at three (3) days.

518.04 – CONSTRUCTION METHODS

All construction shall be in accordance with the Standard Details for Thrust Blocks.

518.06 – METHOD OF MEASUREMENT

"Thrust Blocks" will not be measured separately.

518.07 – BASIS OF PAYMENT

All cost of installing thrust blocks shall be included in the price bid for water line.

SECTION 519 – BLOW-OFF CONNECTIONS

519.01 – DESCRIPTION

This section covers blow-off connections intended to be used to provide outlets for draining waterlines at dead ends.

519.04 – CONSTRUCTION METHODS

Blow-off connections shall be constructed of the size, detail and location shown on the plans. Blow-offs shall be provided with a shut-off valve. Blow off connections shall be constructed in accordance with standard details in contract.

519.06 – METHOD OF MEASUREMENT

Blow-off Connections will not be measured separately.

519.07 – BASIS OF PAYMENT

All costs of providing and installing blow-off connections shall be included in the price bid for waterline.

SECTION 520 – WATER VALVES

520.01 – DESCRIPTION

This section covers water valves of size and type specified or called for on the plans. Unless otherwise specified, all valves shall be gate valves. Valves specified shall be of the types shown in the following table:

Valve Type	Reference Standard
Gate (Resilient Seated)	AWWA C-509, C-550 and C111
Tapping	AWWA C-509, C-550 and C111
Check	AWWA C-508

520.02 – MATERIALS

The Contractor shall submit the following for approval prior to installation:

- A) Valve make and model
- B) Valve detail drawings
- C) Type "A" and "D" Certifications.

520.02.01 – GATE VALVES

- A) General - Gate valves shall conform to the requirements of AWWA C-509, C-550 and C-111 and shall be, bronze mounted, outside screw and yolk, non-rising stem, open counter-clockwise, close clockwise, mechanical joint both ends, resilient seated, "O-ring" for non-rising stem, and shall have 2" square operating nut.
- B) Pressure Rating - Valves produced conforming to AWWA C-509, C-550, and C-111 shall have a design working pressure of two hundred pounds per square inch (200 psi).
- C) Acceptable Manufacturers – Gate valves shall be Mueller or approved equal.

520.02.02 – TAPPING VALVES

- A) General - Valves to be used with tapping sleeves shall have connecting flanges (Standard Class 125) with centering lip on the valve flange to fit recess or counterbore on the outlet tapping sleeve flange. The outlet end of the valve shall have a combination mechanical joint end and tapping machine flange.
- B) Tapping valves shall conform to AWWA C-509 and C-550, except as modified for passage and clearance of tapping machine cutters. The opening through the valve shall be at least one-quarter inch ($\frac{1}{4}$ ") larger than nominal valve diameter. The outlet end of the valve shall have the desired joint connection for the intended pipe. Tapping Valves shall be Mueller Tapping Valve, or approved equivalent.

Tapping valves shall allow full size cutters to be used. Seating of the disc gate shall not require any sliding or wedging to achieve a zero leakage. A maximum of three (3) internal moving parts shall be required for operation of the valve. The stem collar shall be protected from outside grit, sand, etc., by dual O-rings above stem collar. There shall be an O-ring below stem collar sealing off lubrication chamber from line fluid. Pressure energized O-rings may be used in place of flat gaskets on flanged joints in valve body/bonnet.

All interior and exterior ferrous surfaces shall be protected against corrosion by factory-coated fusion-bonded epoxy coating. Coating shall be applied prior to assembly to insure coverage of all exposed areas, including bolt holes.

c) Acceptable Manufacturers - Tapping valves shall be Mueller or an approved equal:

520.02.04 – CHECK VALVES

A) General - Check valves shall conform to the requirements of AWWA C-508 Standard for Swing-Check Valves for Waterworks Service, two (2") inches through twenty-four (24") inches NPS. Check Valves shall be Mueller A2600-06BB Gravity operated Swing Check Valve or approved equal.

B) Pressure Ratings – Check valves conforming to AWWA C-550 shall have a working pressure rating of one hundred seventy-five pounds per square inch (175 psi).

C) Acceptable Manufacturers - Check valves shall be Mueller or approved equal.

D) Pressure Rating- Tapping valves manufactured conforming to AWWA C-509 and C-550 shall have 200 psi working pressure rating

520.04 – CONSTRUCTION METHODS

Gate valves shall be set with the stems plumb.

Check valves shall be set horizontally.

Tapping valves shall be installed in accordance with the recommendations of the pipe manufacturer being tapped.

Other types of valves shall be set in position shown on the plans or as directed by the Engineer.

At the site of the work and just prior to placing the valve in the trench, the valve shall be fully opened and closed and a record of the number of turns required for full operation shall be furnished to the Engineer. The inside of the valve shall be thoroughly cleaned before installation.

The valve shall be set on a firm base. Valves in PVC pipelines shall be supported by concrete independently of the pipe. The valve and the valve box shall be firmly supported and centered prior to backfill. Installation of valves shall also comply with the appropriate standard detail.

520.06 – METHOD OF MEASUREMENT

Payment for valves, valve boxes and valve vaults shall be made at the unit price bid per each for each type and size of valve. The price established shall be full compensation for all material including valve, valve boxes, valve vaults, installation, labor, tools, equipment and incidentals necessary to complete this item of work.

520.07 – BASIS OF PAYMENT

Unless otherwise called out on plans, the item measured as provided above will be paid for at the contract unit price bid:

(SIZE) (GATE) VALVE WITH BOX EA.
(SIZE) TAPPING VALVE AND SLEEVE EA.
(SIZE) CHECK VALVE AND VAULT EA.

Such payment shall be compensation in full for furnishing all materials, labor, equipment, tools and

incidentals, and for performing the work in accordance with these specifications.

SECTION 521 – VALVE BOXES

521.01 – DESCRIPTION

This section covers valve boxes intended to provide means to operate the valve.

521.02 – MATERIALS

- A) Valve Boxes - All valve boxes shall be Chickasha Standard three (3) piece cast iron of the extension type suitable for a depth of cover over the pipeline as required by the backfill requirements at each valve. Each valve box shall be provided with a suitable cast iron base and cover. All parts of valve boxes, bases, and covers shall be coated by dipping in hot bituminous base material. Covers shall have cast thereon an appropriate name designating the service for which the valve is to be used.

521.07 – BASIS OF PAYMENT

Payment for valve boxes shall be paid for as per Section 520.07.

SECTION 522 – HYDROSTATIC PRESSURE TESTING

522. 01 – DESCRIPTION

This section covers hydrostatic pressure testing of installed water mains in accordance with the requirements specified herein.

All pipelines shall be tested by means of hydrostatic pressure of not less than 150 pounds per square inch. If test plugs are used, they shall be furnished and installed by the Contractor at his own expense, together with all necessary anchors, braces and other devices necessary to withstand the hydrostatic pressure on such plug or plugs without placing any hydraulic thrust on the pipe line or any part thereof. The Contractor shall be solely responsible for any and all damage to the pipeline and public and private property, which might be caused by the failure of such test plugs or supports therefore. The allowable leakage shall not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at 150 psi testing pressure.

After the section of line to be tested has been filled with water, the specified test pressure shall be applied by means of a force pump of such design and capacity that such pressure can be applied and maintained for the duration of the test period, which shall be not less than two (2) hours.

All water supplied to the line, after the initial filling thereof shall be metered by means of a tested water meter approved by the Engineer.

If any section of pipeline including specials, fitting and appurtenances are discovered to be damaged after the hydrostatic test, they shall be repaired or replaced with sound material and the test shall be repeated to the satisfaction of the Engineer. If any test of pipe installed indicates leakage greater than the allowable leakage, the contractor shall, at his own expense, locate and repair the source of leak in the pipeline until the leakage is within the specified allowance. All visible leaks are to be repaired regardless of the amount of leakage.

All pipelines shall meet the requirements of this section before any service taps are made, unless otherwise approved by the Engineer.

522.06 – METHOD OF MEASUREMENT

All costs for Hydrostatic Pressure Testing shall be included in the price bid for water line.

SECTION 523 – DISINFECTION

523.01 – DESCRIPTION

This section covers disinfection of water mains.

523.04 – CONSTRUCTION METHODS

523.04.01 – GENERAL

- A) Water Mains -All new water mains shall be disinfected before they are placed in service. All water mains taken out of service for inspecting, repairing, or other activity that might lead to contamination of water shall be disinfected before they are returned to service. All work shall comply with ODEQ regulations AWWA C-651 Standard for Disinfecting Water Mains and as described herein.
- B) Continuous-feed method disinfection per AWWA 651, Sec. 4.4.3 shall be used only. Contractor shall be responsible for collecting all water drained from the existing water main and from the new water main and disposing of it in accordance with all appropriate State and Federal regulations.
- D) All water mains shall meet the requirements of this section before any service taps are made.
- E) The City Engineer may require the water line be disinfected and tested for acceptance in sections less than 1,000 long.

523.04.02 – FLUSHING

Prior to chlorination, the line shall be completely flushed through all available hydrants and blow-offs with potable water at a velocity sufficient to adequately clean the pipe, hydrants and blow-offs. Valves shall be operated through their extreme open and closed positions during disinfection. During operations to collect samples for bacteriological testing, the Contractor shall completely flush the main through all available hydrants and blow-offs with potable water at a velocity sufficient to adequately clean the pipe, hydrants and blow-offs.

All water necessary for flushing shall be provided by the City.

523.04.03 – DISINFECTION

The disinfection of the pipeline and the bacteriologic and chemical tests shall be provided by the Contractor. The Contractor shall furnish the necessary equipment and materials for disinfection and testing. The Contractor shall furnish labor to make the necessary connections and shall provide any temporary drainage measures for disposal of the flushed water. Contractor shall obtain safe bacteriological samples on two consecutive days before placing the waterline into service.

All water mains shall meet the requirements of this section before any service taps are made.

523.06 – METHOD OF MEASUREMENT

Unless provide for otherwise, all costs of Disinfection shall be included in the price bid for water line. Contractor shall provide all material including disinfectants, flushing, de-chlorination, disinfection, hydrostatic pressure testing, labor, tools, equipment and incidentals necessary to complete this item of work.

SECTION 524 – DUCTILE IRON PIPE (DIP)

524.01 – DESCRIPTION

This section covers ductile iron pipe and fittings, for pressure applications, intended to be used for conveyance of potable water, in sizes six inches (6") through twelve inches (12").

524.02 – MATERIALS

524.02.01 – GENERAL

All ductile iron pipe and fittings and installation of same shall conform to the requirements of the following standards listed below or as modified herein.

- A) ANSI/AWWA C-150/A 21.50, Thickness design of Ductile Iron Pipe
- B) ANSI/AWWA C-151/A 21.51, Ductile Iron Pipe, Centrifugally Cast
- C) ANSI/AWWA C-111/A 21.11, Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings.
- D) ANSI/AWWA C-104/A 21.4, Cement Mortar Lining for Ductile Iron Pipe for Water.
- E) ANSI/AWWA C-600, Installation of Ductile Iron Water Mains and Their Appurtenances.
- F) ANSI/AWWA C-115/A 21.15, Flanged Ductile Iron Pipe with Threaded Flanges.
- G) ANSI/AWWA C-116/A 21.16, Protective Fusion-Bonded Epoxy Coatings for Interior and Exterior surface of Ductile Iron and Gray Iron Fitting
- H) ANSI/AWWA C-153/A 21.53, Ductile Iron Compact Fittings
- I) NSF/ANSI 61, Drinking Water System Components –Health Effects

524.02.02 – SUBMITTALS

The Contractor shall submit the following and shall receive approval of same from the Engineer prior to incorporating any materials into the work.

Review and approval of the Contractor submittals, by the Engineer, shall not be construed in any way as relieving the Contractor and the manufacturers of their responsibilities for manufacturing ductile iron pipe and fittings as described herein.

- A) General - Detail drawings of pipes, specials, fittings, and joints.
- B) Certification - Type "A" and "D" certification for pipe, specials, fittings, gaskets, and lining material pursuant to, but not limited to, applicable standards in Section 524. The affidavits of compliance and test reports shall be certified by a registered professional engineer.
- C) Copies - The Contractor shall provide three (3) copies of all submittals.

524.02.03 – DESIGN BASIS

- A) General - All ductile iron pipes are designed in accordance with AWWA C-150/ANSI 21.50. The designs are based on prism load of ordinary clay backfill with a unit weight of one hundred twenty pound per cubic feet (120 pcf), maximum horizontal ring deflection of three (3%) percent, design factor safety of two (2), and for AASHTO HS-20 truck highway (HWY) or Cooper axle E-80 railroad (RR) live loading conditions.

- B) Depth of Cover - The minimum design depth of cover shall be five (5') feet. Pipe to be installed inside a casing shall be designed for full cover including live load (a single H-20 or Railroad E-80) neglecting the casing.
- C) Deflection – The allowable deflection for the specified mortar lining system is three (3%) percent. Deflection calculation is in accordance with AWWA C-150.
- D) Bending and Hoop Stresses -The bending and hoop stress requirements are met in accordance with AWWA C-150.

E) Buckling

1. Buried Installations - The controlling load for buried pipes is determined from the greater of hydrostatic and earth loads plus vacuum or hydrostatic and earth load plus live load with a factor of safety of two (2.0) as determined in accordance with Section 6.3 of AWWA M-11. It is assumed that the groundwater level is equal to natural ground surface and the ground is fully saturated.
2. Unburied Installations - For unburied pipes, the internal collapsing vacuum pressure is used in determining the minimum wall thickness(es) in accordance with equation 4-2 of AWWA M11 for a factor of safety of 1.5 against buckling. The Poisson's ratio is 0.28 and modulus of elasticity is 52×10^6 psi.
3. Vacuum Pressure - For both buried and unburied installations, the internal collapsing vacuum pressure is taken as 14.7 psi.

524.02.04 – MINIMUM PIPE DESIGN FOR DUCTILE IRON PIPE

Unless otherwise specified, ductile iron pipe and fittings for buried installations, including boring, shall have the following minimum nominal thickness(es), shown below.

For boring, installations, the minimum pipe design shall be equal to or greater than the minimum pipe design on either side of the installation.

Minimum Pipe Design for Ductile Iron Pipe		
Pipe Size (inches)	Nominal Push on Joint Wall Thickness Class 50 (Inches)	Flange Joints Class 53 (inches)
6"	0.25"	0.34"
8"	0.27"	0.36"
10"	0.29"	0.38"
12"	0.31"	0.40"

524.02.06 – PIPE JOINTS AND FITTINGS

- A) General - All specials and fittings may be used with push-on, mechanical, or flanged joints conforming to the requirements of AWWA/ANSI C-110/A 21.16. Fittings with push-on joints shall be installed with thrust blocks. Mechanical joints shall be adequately protected against unbalanced forces. All joints shall have the same pressure rating as the pipe of which they are a part and shall meet the requirements of AWWA/ANSI C-111/A 21.11. All pipe shall be marked in accordance with Sec. 4.7 of AWWA C-151.
- B) Push-on Joints - Push-on joints are a rubber gasket compression type joint meeting the requirements of AWWA C-111. Push-on joints shall have a deflection capability of three degrees

(3°).

C) Mechanical Joints - A mechanical joint is a bolted joint of the stuffing-box type. Each joint shall consist of a bell that is cast integrally with the pipe or fitting and provided with an exterior flange having bolt holes or slots, and a socket with annular recesses for the sealing gasket and the plain end of the pipe or fitting, a pipe or fitting plain end, a sealing gasket, a follower gland with bolt holes, and T-head and hexagonal nuts.

D) Flanged Joints - The flanged joints for ductile iron pipe shall be in accordance with AWWA C-111. Bolts, gaskets, and installation shall meet the requirements of AWWA C-115, Appendix A. The flanged joints for specials and fittings shall meet the requirements of AWWA C-110.

The flanges shall be rated for two hundred fifty (250 psi) pounds per square inch working pressure with bolt-hole drillings as for Class 125 flanges for service at temperatures ranging from twenty degrees (20°) to one hundred fifty degrees F (150°F) are pressure temperature rated for one hundred fifty (150) to two hundred pounds per square inch (200 psi) as shown in ANSI B 16.1. All flanged joints shall be made with single piece, red rubber gaskets one-eighth (1/8") inch thick. Gaskets shall be full face for exposed installations and ring type or full faced for buried service meeting AWWA C-110, Appendix A requirements. As directed by the Engineer or shown on plans, flange joints meeting the requirements of ASME/ANSI B-16.1 may be used.

E) Mechanical Joint Restraints

Mechanical Joint Restraints may be used only at locations approved by the Engineer. Typical examples where the Engineer may permit use of Mechanical Joint Restraints are: creek crossings, locations where excavation depth exceeds five feet and bends greater than 22 1/2° are required to match new pipe to existing pipes and locations where required connections or other laying conditions do not permit sufficient time to complete thrust blocks prior to returning water mains to service.

Mechanical Joint Restraints will not be used in lieu of thrust blocks.

Mechanical Joint Restraints, if permitted, shall be as follows or approved equal. Mechanical Joint Restraints such as Ford Meter Box Company Uni-Flange Retainer Glands, EBAA Iron Sales Mega-Lug Series 1100 and other models that require set screws or bolts in direct contact with the pipe will not be permitted for use on PVC pipe.

Restrained Joints		
Company	Size	Type
American Cast Iron Pipe Co.	6" to 12"	Flex-Ring
EBAA Iron Sales Co.	6" to 12"	Mega-Lug Series 1100
Ford Meter Box Co.	6" to 12"	Uni-Flange
US Pipe and Foundry Co.	6" to 12"	TR-Flex
N/A	6" to 12"	¾" all thread with Duc Lug

F) Sleeve Couplings - All sleeve couplings, except as noted on the plans or otherwise specified, shall be restrained with tie rods and shall be designed for the pipe design pressure and maximum allowable stress not to exceed sixty-five percent (65%) of minimum yield strength of steel used. Sleeve couplings shall be:

Dresser Style 38
Rockwell Steel Coupling 511
Smith Blair
Approved Equal

Sleeve Couplings shall be compact fittings meeting the requirements of AWWA C-153 and AWWA C-110

524.02.07 – COATING AND LINING

- A) Exterior Coating - The exterior of ductile-iron pipe, specials and fittings shall be coated with the asphalt coating in accordance with AWWA C-151, Section 516. The coating shall have a minimum thickness of one (1) mil. The finished coating shall be smooth, continuous and strongly adherent to the pipe. Any damage to the outside coating during shipping, storage, handling and installation shall be field repaired with a fresh coating in accordance with the manufacturer's recommendations.
- B) Interior Lining - Unless otherwise called for on the plans or specified, the interior of ductile-iron pipe, specials and fittings shall be cement mortar lined in the shop, with centrifugally spun lining in accordance with AWWA C-104. The Portland cement for cement mortar lining shall be in accordance with the requirements of ASTM C-150, Type I cement. Field repair of lining shall be made in accordance with AWWA C-104, Section 4-7.2.

524.02.08 – CORROSION PROTECTION

When specified or called for on the plans, all ductile-iron pipe, specials, fittings and other appurtenances shall be polyethylene encased in accordance with AWWA C-105/ANSI A 21.5. Exposure to sunlight of polyethylene wrapped pipe shall be kept to a minimum to prevent deterioration of polyethylene. Damage to polyethylene wrapping shall be prevented during backfilling operations. The minimum thickness for polyethylene is eight (8) mils.

524.05 – SOURCE QUALITY CONTROL TESTING

- A) Ductile Iron Pipe shall be tested at the manufacturer's plant by the manufacturer in accordance with Sec. 5.2 of AWWA C-151.
- B) Ductile Iron fittings shall be tested at the manufacturer's plant by the manufacturer in accordance with Sec. 5.2 of AWWA C-153.
- C) Joint Testing – Joints shall be tested and meet the performance requirements established in AWWA C-111/ANSI A 21.11, Section 11-9 and as modified herein. The working pressure rating of the joint shall be established by subjecting the joints to three (3%) percent of the pipe produced to hydrostatic pressure of twice the rated working pressure, but in no event less than twice the minimum working pressure rating shown below. At least two (2) joints shall be hydrostatically tested at a deflected angle of the degrees (3°) at the above specified pressure rating.

The minimum working pressure ratings for joints shall be 350 psi.

- D) Contractor shall provide certifications stating the pipe and fittings meet these requirements.
- E) Welding - All welding shall be done by qualified welders. The ductile-iron pipe manufacturer shall be responsible for quality control and testing of all welding done in the plant during fabrication of special fittings.

Inspection - The City retains the right to inspect the pipe, specials and fittings, all work performed and materials furnished, at the manufacturer's plant and at the project site and to independently monitor the fabrication of the pipe, specials and fittings. Such inspection shall not relieve the Contractor or the manufacturer of their responsibilities to furnish material and perform work in accordance with these

specifications.

524.06 – METHOD OF MEASUREMENT

Payment shall be made pursuant to Section 505 for water line.

524.07 – BASIS OF PAYMENT

Such payment shall be compensation in full for furnishing all materials, labor, equipment, tools and incidentals, and for performing the work in accordance with these specifications.

SECTION 525 – POLYVINYL CHLORIDE (PVC) PIPE

525.01 – DESCRIPTION

This section covers polyvinyl chloride (PVC) pipe for pressure applications, intended to be used for conveyance of potable water, in sizes six inch (6") through twelve inch (12") diameter.

525.02 – MATERIALS

PVC pipe shall be produced by extrusion from Class 12454-A or 12454-B PVC compound providing a hydrostatic design basis (HDB) of four thousand pounds per square inch (4,000 psi).

525.02.01 – GENERAL

All PVC pipe and installation of same shall conform to the requirements of the following standards listed below or as modified herein.

AWWA C605 – Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for water

AWWA C-900-PVC pressure pipe, 4 inch through 12 inch for water distribution.

AWWA M-23 – PVC pipe Design and Installation.

ASTM D-2774-Recommended Practice for Underground Installation of Thermoplastic Pressure Piping.

ASTM D-2827-Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials.

ASTM D-3139-Specifications for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.

ASTM F-477-Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

NSF 14-Plastic Piping System Components and Related Materials. PPI TR3-Policies and Procedures for Developing Recommended Hydrostatic Design Stresses for Thermoplastic Pipe Materials.

NSF/ANSI 61 Drinking Water System Components – Health Effects.

525.02.02 – SUBMITTALS

The Contractor shall submit the following and shall receive approval of same from the Engineer prior to incorporating any materials into the work.

Review and approval of the Contractor submittals, by the Engineer, shall not be construed in any way as relieving the Contractor and the manufacturers of their responsibilities for manufacturing PVC pipe and fittings as described herein.

A) General -Detail drawings of pipes

B) Certification - Type "A" and "D" certification for pipe, specials, fittings, gaskets, and lining material. The affidavits of compliance and test reports shall be certified by a registered professional engineer.

C) Guides - The manufacturer's pipe installation guide, standard pipe material repair guide, and

written quality control manual shall be provided by all suppliers who have not previously provided same to the City of Chickasha, or if same has been revised since last provided to the City of Chickasha.

D) Mill Test Reports - Mill test reports of materials used in the fabrication of pipe.

E) Copies - The Contractor shall provide three (3) copies of all submittals.

525.02.03 – DESIGN BASIS

A) General - The PVC pipe is designed in accordance with AWWA M23, or as modified herein, and shall conform to DR 14.

B) Depth of Cover - The minimum design depth of cover shall be five feet (5'). The pipe to be installed inside a casing shall be designed for full cover including live load (a single H-20 or Railroad E-80) neglecting the casing.

C) Allowable Stresses – For pipes six (6") inches through twelve 12" inches, the allowable design stress is sixteen hundred pounds per square inch (1,600 psi), as established per AWWA C-900.

D) Dimension Ratio (DR) - Pipe DR shall be DR 14.

E) Deflection - The allowable deflection is five (5%) percent of the nominal diameter. Deflections are determined based on the following:

a. Deflection lag factor = 1.0

b. Bedding Constant = 0.10

c. Modulus of soil reaction, $E' = 1000$ psi

d. Earth load considered is the prism load of ordinary clay backfill with a unit weight of one hundred and twenty (120 pcf) pounds per cubic foot, compacted to 90% density (ASTM D-698).

e. A highway live loading of AASHTO HS-20 truck, or railroad live loading of Cooper Axle E-80.

525.02.04 – DIMENSION RATIO (DR)

PVC pipe for buried installations including boring, shall have dimension ratio (DR 14).

For boring installations, the minimum dimension ratio shall be equal to or greater than the minimum dimension ratio on either side of the installation.

525.02.05 – DIMENSIONS

All PVC pipe shall have Cast-Iron-Pipe equivalent (C.I.) outside diameter (O.D.) dimensions.

525.02.06 – PIPE JOINTS AND FITTINGS

A) Fittings for use with PVC pipe shall conform to provisions of AWWA C110/A21.10 and shall be short-bodied style. Fittings shall be mechanical joint type. Pressure rating shall conform to the requirements of Section 524.02.06 for ductile iron pipes and fittings. The outside coating for fittings shall conform to the requirements of Section 524.02.07.

B) Mechanical Joint Restraints -

Mechanical Joint Restraints may be used only at locations approved by the Engineer. Typical examples where the Engineer may permit use of Mechanical Joint Restraints are: creek crossings, locations where excavation depth exceeds five feet and bends greater than $22\frac{1}{2}^{\circ}$ are required to match new pipe to existing pipes and locations where required connections or other laying conditions do not permit sufficient time to complete thrust blocks prior to returning water mains to service.

Mechanical Joint Restraints will not be used in lieu of thrust blocks.

Mechanical Joint Restraints, if permitted, shall be as follows or approved equal. Mechanical Joint Restraints such as Ford Meter Box Company Uni-Flange Retainer Glands, EBAA Iron Sales Mega-Lug Series 1100 and other models that require set screws or bolts in direct contact with the pipe will not be permitted for use on PVC pipe.

Restrained Joints		
Company	Size	Type
American Cast Iron Pipe Co.	6" to 12"	Flex-Ring
Ford Meter Box Co.	6" to 12"	Uni-Flange
US Pipe and Foundry Co.	6" to 12"	TR-Flex
N/A	6" to 12"	¾" all thread with Duc Lug

525.03 – SOURCE QUALITY CONTROL TESTING

- A) Polyvinyl chloride Pipe shall be tested at the manufacturer's plant by the manufacturer in accordance with Sec. 5.1 of AWWA C-900.
- B) Ductile Iron Fittings shall be tested in accordance with Section 524.05 B)
- C) Contactor shall provide certifications stating the pipe meets the requirements of these specifications.

525.04 – CONSTRUCTION METHODS

The owner retains the right to inspect the pipe, specials and fittings, all work performed and materials furnished at the manufacturer's plant and at the project site and to independently monitor the fabrication of the pipe, specials and fittings. Such inspection shall not relieve the Contractor or the manufacturer of their responsibilities to furnish material and perform the work in accordance with these specifications.

During installation of PVC pipe, the contractor shall place a locator wire along with the pipe in accordance with the standard drawings. The wire is to be placed continuously throughout the extent of the pipeline. Wire shall be copper 14 AWG single conductor type THHN or THWN. All field splices shall be in waterproof couplings for underground installations. Wire shall extend up into access points as directed by the Engineer. Cost of locator wire shall be included with the price bid for water line.

525.05 – DISINFECTION AND HYDROSTATIC PRESSURE TESTING

Disinfection and Hydrostatic Pressure Testing shall be accomplished in accordance with Section 522 and Section 523.

525.07 – BASIS OF PAYMENT

Payment shall be made pursuant to Section 505.

SECTION 526 – TRACE WIRE INSTALLATION

526.01 - GENERAL

This Section governs trace wire installation on PVC water mains. Contractor shall provide and install a trace wire and trace wire access boxes. A 14 gauge or larger trace wire shall be installed on all PVC water mains.

Typical hydrant branches, that are perpendicular to the water main, do not require trace wire. Trace wire shall be installed on non-typical hydrant branches (i.e. dog-legged hydrant branch).

Take care to protect the wire insulation and repair it with electrical tape if the insulation is damaged.

Refer to the standard drawings for additional details.

526.02 - APPROVED TRACE WIRE MATERIAL

A.) Trace Wire

1. Trace wire for direct bury installations shall be #14 AWG Copper Clad Steel wire as manufactured by Copperhead Industries, LLC #14 AWG solid Copper wire with 30 mil high molecular weight polyethylene insulation as manufactured by Agave Wire LTD, or approved equal.

2. Direct Bury Splice Kits DBR/Y-6 as manufactured by 3M or approved equal.

A.) Trace Wire Access Box shall be Snake Pit Roadway Box as manufactured by Copperhead Industries, LLC or approved equal.

526.03 - TRACE WIRE CONNECTIONS

Joining Ends of Trace Wire: Connections into existing trace wire, connections between one spool of trace wire to another, and other similar connections shall be made using a direct bury splice kit.

Joining Trace Wire - Branch to Main: Connections of trace wire at tees, crosses, and at locations where the trace wire will be brought to the surface shall be conducted using a direct bury splice kit.

526.04 - INSTALLATION

Trace wire shall be installed in a continuous fashion. Install trace wire in the bottom of the trench along the centerline of the trench prior to placing bedding.

Bring trace wire to surface at every valve box, and dead end and as called out in the drawings. Trace wire shall be brought to the surface at least every five hundred (500) feet. Take care not to damage the wire coating. Repair damaged coating with electrical tape.

Trace wire shall be brought to the surface in a separate access box. The trace wire shall be brought to the surface according to standard drawings.

Testing – all trace wire shall be tested for continuity by the Contractor in the presence of the inspector prior to acceptance.

526.06 – METHOD OF MEASUREMENT

Trace wire and Trace wire access boxes will not be measured separately.

526.07 – BASIS OF PAYMENT

All costs of trace wire and access boxes shall be included in the price bid for waterline.

SECTION 527 – BORING

527.01 – DESCRIPTION

This section covers furnishing of pipe by boring and casing as shown on the plans or specified.

Boring and casing consists of the initial installation of a steel casing pipe, installed mechanically, and with a suitable assembly designed to produce a smooth, straight shaft at the established line and grade. The pipe is then installed inside the casing pipe pursuant to the Standard Detail for Boring.

527.02 – MATERIALS

For casing pipe materials and submittal requirements, refer to section 528.

527.04 - CONSTRUCTION METHODS

A) General – Where pipe is required to be installed under railroad embankments, highways, streets, or other facilities by boring and casing, construction shall be made in such a manner that will not interfere with the operation of the railroad, street, highway, or other facility, and shall not weaken or damage any embankment or structure. During construction operations, barricades and lights to safeguard traffic and pedestrians shall be furnished and maintained, until such time as the backfill has been completed after which the barricades and lights shall be removed from the site.

The Contractor shall take proper precautions to avoid excavating earth or rock or shattering rock beyond the limits of excavation shown on the plans. All damages caused by the construction to either surface or subsurface structures, shall be repaired or replaced by the Contractor at his own cost and expense.

Suitable pits, shafts, or trenches shall be excavated for the purpose of conducting the boring and casing operations and for placing end joints of the pipe. Wherever end trenches are cut in the sides of the embankment or beyond it, such work shall be sheeted securely and braced in a manner satisfactory to the Engineer to prevent earth caving.

The removal of any obstruction that may be found to conflict with the placing of the pipe shall not be measured for payment nor paid for as a separate contract pay item. The removal of any such obstruction shall be included in the cost of other items.

Once the casing installation has commenced it shall be continued uninterrupted around the clock until the pipe has been installed between the specified limits.

Any pipe damaged during operations shall be removed and replaced by the contractor at his expense.

The pits or trenches excavated to facilitate the operations shall be backfilled immediately after the pipe has been installed.

B) Boring Requirements - Work shall comply with the Standard Detail for Boring. The excavation and backfill for pits shall be as outlined in Section 500.

Boring without the concurrent installation of a casing pipe shall not be permitted, unless shown on plans or directed by the Engineer. All joints in casing pipe shall be welded. Casing pipe shall extend through the entire fill and be installed in a manner that shall not disrupt traffic nor damage roadway grade and surface. The introduction of water into the excavation shall be prohibited.

The size of the bored hole shall not exceed the outside diameter of the pipe bell or casing pipe more than one inch (1"). The use of water or other fluids in connection with the boring operation shall only be permitted when approved by the Engineer.

Nothing contained herein shall be construed as relieving the Contractor from his responsibility for the safety of the work and for all damage to persons and property.

C) Skid Supports

Plastic or rubber skid supports, shall be used and fastened securely to the carrier pipe with steel strapping, cables or clamps. Use of petroleum products shall not be allowed as a lubricant to ease installation. Skid support spacing and position shall be in accordance with the Standard Detail for Boring.

D) Casing Pipe End Seals - Both ends of the casing pipe shall be sealed with a pull-on type EPDM, neoprene or comparable material flexible end seal manufactured for this purpose. End Seals shall be secured with stainless steel straps or clamps.

E) Filling Annular Space - The annular space between the waterline pipe and the steel casing pipe shall not be filled.

527.06 – METHOD OF MEASUREMENT

Bored and cased pipe shall be measured by the lineal foot of pipe bored and cased. Payment shall be made at the unit price bid per lineal foot for each size. The price established shall be full compensation for furnishing and placing all materials including steel casing pipe, carrier pipe, grout or concrete, excavation and backfill, sheeting, shoring, bracing and drainage, disposal of all surplus materials, labor, tools, equipment, and incidentals necessary to complete this item of work

527.07 – BASIS OF PAYMENT

The items measured as provided above will be paid for at the contract unit price bid:

(PIPE SIZE) Bored/Cased..... L.F.

Such payment shall be compensation in full for furnishing all materials, labor, equipment, tools and incidentals, and for performing the work in accordance with these specifications.

SECTION 528 – STEEL CASING PIPE

528.01 - DESCRIPTION

This section covers steel pipe intended to be used as a casing pipe for boring installations.

528.02 – MATERIALS

528.02.01 – SUBMITTALS

The Contractor shall submit the following, provided that all applicable requirements are met, and that visual inspection at destination shows the workmanship and condition of material to be satisfactory.

- A) Type "A" certification for pipe
- B) Shop drawings of pipe, joints and seams
- C) Documentation of manufacturer's on-going quality control program.

528.02.02 – GENERAL

- A) General -Steel pipe shall conform to ASTM A-139, Standard Specification for Electric-Fusion (ARC)-Welded Steel Pipe (NPS 4 and Over). The steel material shall be new, smooth wall, carbon steel, Grade B, with minimum sixty thousand pounds per square inch (60,000 psi)

tensile strength, and minimum thirty-five thousand pounds per square inch (35,000 psi) yield strength.

The Pipe shall be straight seam pipe, shall be one hundred (100%) percent welded, and the weld's height over the outside wall surface shall be equal to or less than three-sixteenths (3/16") inch. All steel pipe shall be square cut and shall have a roundness such that the difference between the major and minor outside diameters shall not exceed one percent (1%) of the specified nominal outside diameter or one-fourth inch (¼"), whichever is less. The outside circumference must be within plus or minus (±) one percent (1%) of the nominal circumference or within plus or minus (±) one-half inch (½"), which is less. The pipe shall have a maximum allowable straightness deviation in any ten foot (10') length of one-eighth inch (1/8"). Steel pipe joints shall be continuously welded with an approved butt weld. The welds shall attain the full strength of the pipe and shall result in a fully watertight section. The welded joints shall conform to the requirements of AWWA C-206.

B) Boring Installation

1. Casing Pipe Size – Steel casing pipe shall have the follow minimum inside diameters:

Pipe Nominal Size (inches)	Casing Pipe Inside Diameter (inches)
6	10
8	14
10	16
12	20

2. Casing Pipe Thickness - Steel casing pipe wall thickness shall be 3/8" minimum.

528.07 – BASIS OF PAYMENT

Payment shall be made pursuant to the appropriate Section of 505.

SECTION 529 – HIGH DENSITY POLYETHYLENE (HDPE) PIPE

529.01 – DESCRIPTION

This specification lists the requirements for the material (pipe and fittings) and joining methods for high density polyethylene pipe (HDPE) piping systems for potable water supply, in sizes six inches (6") through twelve inches (12").

529.02 – MATERIALS

529.02.01 – GENERAL

Unless otherwise specified, references to documents shall mean the latest published edition of the referenced document in effect at the bid date of the project.

- ANSI/AWWA C906 Polyethylene (PE) Pressure Pipe and Fittings, 4 In. through 65 In., for Waterworks
- AWWA M55 Manual of Water Supply Practices, PE Pipe–Design and Installation
- PPI Handbook of Polyethylene Pipe
- PPI Material Handling Guide for HDPE Pipe and Fittings
- PPI TR-38 Bolt Torque for Polyethylene Flanged Joints
- PPI TN-42 Recommended Minimum Training Guidelines for PE Pipe Butt Fusion Joining Operators for Municipal and Industrial Projects
- ASTM F 714 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside

Diameter

- ASTM F 1055 Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and
- ASTM F 1290 Standard Practice for Electrofusion Joining Polyolefin Pipe and Fittings
- ASTM F 2164 Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure
- ASTM F2206 Standard Specification for Fabricated Fittings of Butt-Fused Polyethylene (PE) Plastic Pipe, Fittings, Sheet Stock, Plate Stock, or Block Stock
- ASTM F 2620 Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings
- ASTM D 2683 Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
- ASTM D 2737 Standard Specification for Polyethylene (PE) Plastic Tubing
- ASTM F 2880 Standard Specification for Lap-Joint Type Flange Adapters for Polyethylene Pressure Pipe in Nominal Pipe Sizes 3/4 in. to 65 in.
- ASTM F 3124 Standard Practice for Data Recording the Procedure Used to Produce Heat Butt Fusion Joints
- ASTM D 3261 Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
- ASTM D 3035 Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
- ASTM D 3350 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
- NSF/ANSI 61, Drinking Water System Components –Health Effects

529.02.02 – HIGH DENSITY POLYETHYLENE MATERIALS

A) Resin and Material Requirements

All material shall be manufactured from a PE 4710 resin listed in Plastic Pipe Institute (PPI) TR-4. The resin material shall meet the specifications of ASTM D 3350 with a minimum cell classification of 445474C. HDPE pipe and fittings shall contain no recycled compounds except that generated in the manufacturer's own plant from resin of the same specification from the same raw material. HDPE products shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions, voids, or other injurious defects.

B) HDPE Pipe

1. Pipe shall be made of HDPE material with a minimum material designation code of PE4710 and with a minimum Cell Classification as noted above. The polyethylene compound shall be suitably protected against degradation by ultraviolet light by means of carbon black of not less than 2 percent. The manufacture of the HDPE resin shall certify the cell classification indicated.
2. Pipe sizes 3" and larger shall have a manufacturing standard of ASTM F 714. Pipe Dimension Ratio (DR) shall be as specified on plans. Pipe Outside Diameter shall be DIOD (ductile iron OD).
3. Pipe shall meet AWWA C906 (4" to 65"), and shall be listed as meeting NSF-61.
4. Pipe shall be manufactured by a manufacturer certified for such manufacture by the Plastic Pipes Institute.

C) HDPE Fittings

1. Butt Fusion Fittings- Fittings shall be made of HDPE material with a minimum material designation code of PE4710 and with a minimum Cell Classification as noted above. Fittings shall have a minimum long-term pressure rating equal to or greater than the pipe to which they are joined unless otherwise specified on the plans or accepted by owner/engineer. All fittings

shall meet the requirements of AWWA C906.

- a. Molded fittings shall comply with the requirements of ASTM D 3261.
 - b. Each fitting will be marked per ASTM F 2206.
 - c. Fusion pressure and temperature of fabricated fittings shall be recorded and such data shall be provided in the product submittal. Each fitting shall be stamped with unique joint number that corresponds to the joint report.
 - d. Socket fittings shall meet ASTM D 2683
2. Electrofusion Fittings - Fittings shall be made of HDPE material with a minimum material designation code of PE 4710 and with a minimum Cell Classification as noted in 2.01.A. Electrofusion Fittings shall have a manufacturing standard of ASTM F1055. Fittings shall have a minimum long-term pressure rating equal to or greater than the pipe to which they are joined unless otherwise specified on the plans.
 3. Bolted Connections – Flanged and Mechanical Joint Adapters can be made to ASTM D 3261 or if machined, must meet the requirements of ASTM F 2206. Flanges and MJ Adapters shall be fused onto the pipe and have a minimum long-term pressure rating equal to or greater than the pipe unless otherwise specified on the plans.

529.02.03 – SUBMITTALS

The Contractor shall submit the following and shall receive approval of same from the Engineer prior to incorporating any materials into the work. Review and approval of the Contractor submittals, by the Engineer, shall not be construed in any way as relieving the Contractor and the manufacturers of their responsibilities for manufacturing ductile iron pipe and fittings as described herein.

- A) General - Detail drawings of pipes, specials, fittings, and joints.
- B) Certification - Type "A" and "D" certification for pipe, specials, fittings, gaskets, and lining material pursuant to, but not limited to, applicable standards in Section 529.02.01. The affidavits of compliance and test reports shall be certified by a registered professional engineer.
- C) Copies - The Contractor shall provide three (3) copies of all submittals.

529.02.04 – DESIGN BASIS

- A) General - All HDPE pipes are to be designed in accordance with AWWA Manual M55.
- B) Depth of Cover - The minimum design depth of cover shall be five (5') feet. Pipe to be installed inside a casing shall be designed for full cover including live load (a single H-20 or Railroad E-80) neglecting the casing.

529.03 – SOURCE QUALITY CONTROL TESTING

- A) High Density Polyethylene Pipe shall be tested at the manufacturer's plant by the manufacturer in accordance with Section 5 of AWWA C-906.
- B) Contractor shall provide certifications stating the pipe and fittings meet these requirements.

Inspection - The Owner retains the right to inspect the pipe, specials and fittings, all work performed and materials furnished, at the manufacturer's plant and at the project site and to independently monitor the fabrication of the pipe, specials and fittings. Such inspection shall not relieve the Contractor or the manufacturer of their responsibilities to furnish material and perform work in

accordance with these specifications.

529.04 – TRANSPORTATION, HANDLING AND STORAGE

A) General - All HDPE pipe and fittings shall be cut, joined, and installed in accordance with the manufacturer's recommendations. Joining, laying, and pulling of polyethylene pipe shall be accomplished by personnel experienced in working with polyethylene pipe systems.

B) TRANSPORTATION, UNLOADING AND STORAGE

1. The manufacturer shall package product in a manner designed to deliver the pipe and fittings to the project neatly, intact and without physical damage. During transportation each pipe shall rest on suitable pads, strips skids, or blocks securely wedged or tied in place. The transportation carriers shall use appropriate methods and intermittent checks to insure the pipe is properly supported, stacked and restrained during transportation such that the pipe is not nicked, gouged, or physically damaged. The transportation carrier shall provide tarpaulins to cover any potable water pipe subject to exposure to diesel exhaust or smoke.
2. During loading, transportation, and unloading, every precaution should be taken to prevent damage to the pipe. Cuts or gouges that reduce the wall thickness by more than 10% is not acceptable. Locations with such damage shall be cut out and discarded at the expense of the contractor.
3. Handle the pipe in accordance with the PPI Handbook of Polyethylene Pipe. All pipe and accessories shall be loaded and unloaded by lifting with hoists or by skidding in order to avoid shock or damage. Under no circumstances shall materials be dropped. Pipe handled on skidways shall not be rolled or skidded against pipe on the ground. Slings, hooks or pipe tongs shall be padded and used in such a manner as to prevent damage to the exterior surface or interior of the pipe. All pipe and fittings shall be subjected to visual inspection at time of delivery and before they are lowered into the trench to be laid. Joints or fittings that do not conform to these specifications will be rejected and must be removed immediately by the Contractor.
4. The interior of the pipe as well as all sealing surfaces of mating components (i.e. flange faces) shall be kept free from dirt or foreign matter at all times.
5. Pipe shall not be stacked higher than the limits recommended by the manufacturer. The bottom tiers shall be kept off the ground on timbers, rails, or concrete. Pipe shall not be stored close to heat sources.
6. The open ends of all sections of joined and/or installed pipe (not in service) shall be plugged to prevent animals or foreign material from entering the pipe line or pipe section. The practice of stuffing cloth or paper in the open ends of the pipe will not be permitted. Waterproof nightcaps of approved design may be used but they shall be so constructed that they will prevent the entrance of any type of natural precipitation into the pipe and will be secured to the pipe in such a manner that the wind cannot blow them loose.
7. Where possible, the pipe shall be raised and supported at a suitable distance from the open end such that the open end will be below the level of the pipe at the point of support.

C) PIPE INSPECTION

All pipe and fittings shall be subjected to visual inspection at time of delivery and before they are installed or lowered into the trench to be laid. Defective, damaged, or unsound pipe will be rejected. Cuts, punctures, or gouges that penetrate or reduce the wall thickness by 10% or more are not acceptable. Locations with such damage shall be cut out and discarded at the expense of the contractor. Joints or fittings that do not conform to these specifications will be rejected and must be removed immediately by the Contractor.

D) HANDLING PIPE

1. The handling of the pipeline shall be in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects. Sections of the pipes with cuts and gouges exceeding 10 percent of the pipe wall thickness or kinked sections shall be removed and the ends rejoined.
2. Refer to the PPI Material Handling Guide for HDPE Pipe and Fittings for recommendations, guidelines and instructions regarding the handling, lifting, loading, storing and installing polyethylene pipe and fittings.

529.05 – FUSING PIPE AND FITTINGS

E) FUSION JOINING REQUIREMENTS

1. All HDPE pipe shall be joined to itself by the heat fusion process which produces homogeneous, seal, leak tight joints. Tie-ins between sections of HDPE pipe shall be made by butt fusion whenever possible.
2. Butt Fusion: The pipe shall be joined by the butt fusion procedure outlined in ASTM F 2620 or PPI TR-33. All fusion joints shall be made in compliance with the pipe or fitting manufacturer's recommendations. Fusion joints shall be made by qualified fusion technicians per PPI TN-42. A record or certificate of training for the fusion operator must be provided that documents training to the fundamentals of ASTM F 2620. Considerations should be given to and provisions made for adverse weather conditions, such as temperatures below freezing, precipitation, or wind, which is accepted by the owner/engineer.

F) FUSION OPERATORS

1. The employer of the fusion machine operator is responsible for the fusion joint quality of the fusion weld made by that individual. The employer is responsible for documenting all qualification and training records of that individual.
2. All HDPE fusion equipment operators shall be qualified to the procedure used to perform pipe joining for the type(s) and size(s) of pipes to be used in the project. Fusion equipment operators shall have current, formal training on all fusion equipment employed on the project. Training received more than two years prior to operation with no evidence of activity within the past 6 months shall not be considered current.
3. For Projects with at least 5,000 feet or with pipe larger than 24 inches, operators or their supervisor must have a current McElroy Fusion Training Certificate for the equipment to be used on the project.

D) BUTT FUSION EQUIPMENT

1. For 6" and larger pipe sizes, the pipe butt fusion machine shall be a self-contained hydraulic fusion machine capable of butt fusing HDPE pipe. The carriage must be removable from the chassis for in-ditch use. The machine must be compatible with an electronic data recording device. Accessories will include all butt fusion inserts for the specified range of pipe sizes, a pyrometer kit for checking the surface temperature of the heater, extension cord (25' minimum), and hydraulic extension hoses (minimum of four). The butt fusion machine will be McElroy, or approved equivalent.
2. In areas where there may be insufficient space to layout the entire length of fused pipe to be pulled-back, the Contractor shall utilize a continuous HDPE pipe fusion equipment such as a PolyHorse by McElroy or other means in order to fuse the length of pipe necessary for the installation. The Contractor shall be responsible for securing and obtaining permission/permits from adjacent property if necessary, for staging and/or fusing of the pipe and HDD equipment at no additional cost to the Owner.

E) FUSION DATA RECORDING

1. For 6" and larger pipe sizes, McElroy DataLogger or equivalent fusion data recorder shall be used to record all fusion welds on hydraulically operated fusion machines. The device shall be capable of meeting the requirements of ASTM F 3124, "Standard Practice for Data Recording the Procedure used to Produce Heat Butt Fusion Joints in Plastic Piping Systems or Fittings". The device, or combination of devices, shall record the following variables of each fused joint:
 - a. Heater surface temperature immediately before inserting the heater plate. Alternatively, the heater plate may be measured with a pyrometer and entered into the weld record.
 - b. Gauge pressure during the initial heat cycle
 - c. Gauge pressure and elapsed time during the heat-soak cycle
 - d. Heater removal (dwell) time
 - e. Gauge pressure and elapsed time during the fusing/cool cycle
 - f. Drag pressure
 - g. Pipe diameter and wall thickness
 - h. Type of HDPE material (Specification and Classification) and manufacturer
 - i. Fusion Machine Identification
2. The device shall record the operator, a unique operator ID number, the date and time of each weld.
3. Records showing the device is up to date on all required calibration shall be available for presentation when requested.
4. All fusion welds should be traceable to the report (via operator and weld ID) with an indentation weld stamp or by permanent paint marker/pen next to fusion weld.
5. When requested prior to commencement of work, a weld location map may be requested by the owner or owner's representative.

F) BUTT FUSION EXAMINATION AND TESTING

1. Examinations
 - a. Visual: For pipe sections, examine the full exterior circumference for bead uniformity before cutting. After cutting the pipe section, review the interior bead. All beads should have visually acceptable bead formation as shown in Fig 4 and Appendix X2 of ASTM F 2620. In addition, the following characteristics are expected:
 - 1) There shall be no evidence of cracks or incomplete fusing
 - 2) There shall be no evidence of captured objects (e.g., pipe shavings, facer ribbons) between bonded surfaces.
 - 3) Variations in upset bead heights on opposite sides of the cleavage and around the circumference of fused pipe joints are acceptable.
 - 4) The apex of the cleavage between the upset beads of the fused joint shall remain above the base material surface
 - 5) Fused joints shall not display visible angular misalignment, and outside diameter mismatch shall be less than 10% of the nominal wall thickness
 - 6) Fusion data record review that meet criteria as listed below can be used as additional verification of visual indicators.
 - b. Fusion Data Record Review: The fusion data record for each fused joint shall be compared to the approved fusion procedure. The reviewer shall verify the following:
 - 1) That all data required by section 529.02.05E) was recorded
 - 2) Interfacial pressure was within the acceptable range

- 3) Heater surface temperature was within the acceptable range
- 4) Butt fusion pressure applied during the fusing/cool cycle was correctly calculated to include drag pressure, fell within the acceptable range for the applicable size and agrees with the recorded hydraulic fusing pressure.
- 5) Butt fusing pressure was reduced to a value less than or equal to drag pressure at the beginning of the heat soak cycle.
- 6) Fusing machine was opened at the end of the heat soak cycle, the heater was removed, and the end were brought together at the fusion pressure with the acceptable time range
- 7) Cooling time at butt fusing pressure met the minimum time specified
- c. If the recorded data in section 529.02.05 F) is outside the limits of the acceptable range, the joint is unacceptable.
- d. Frequency. Records for test fusion joints should be reviewed immediately after the joint is completed. Fusion joints for jobsite fusions should be reviewed daily or before being covered with backfill.

2. Mechanical Tests

- a. The Owner reserves the right to require the Contractor to mechanically test the fused pipe if any other test or inspection indicates noncompliance with approved procedures.
- b. If Mechanical tests are required:
 - 1) The fusion shall be allowed to cool completely, then fusion test straps shall be cut out.
 - 2) All samples shall be labeled with operator information. Testing must be done at 73 degrees F plus or minus 5 degrees. The test temperature and sample size are critical to testing. Testing performed at cold or elevated temperatures may not give similar results to tests performed at ambient temperatures.
 - 3) Each pipe sample weld shall be subjected to testing at two locations 180 degrees apart from each other in the joint weld. All specimens shall be tested by one of the following methods:
 - 4) Reverse Bend Test are allowed for pipe sizes 4" IPS or smaller. The specimens shall be removed and tested in accordance with ASTM F 2620, Appendix X4.
 - 5) Guided Side Bend Test are allowed for all pipe sizes 4" IPS and larger. The specimens shall be removed and tested.
 - 6) Hydrostatic Burst Test is allowed for pipe sizes 2"-24". The specimen length should measure 6 times pipe diameter with the butt fusion joint in the center of the specimen. The specimen should be tested in a tank filled with water, and testing conditions monitored and recorded with computerized equipment. The specimen will be tested at 4 times pipe rated pressure for 5 minutes with no failure of joint allowed.
- c. Results of any mechanical test shall be documented. Information on the weld and operator shall be transferred from the sample to the testing record.

529.06 – INSTALLATION

A) INSTALLATION

1. Safety: The Contractor shall carry out his operations in strict conformance with all Occupational

Safety and Health Administration and manufacturers' safety requirements.

2. Direct Burial

- a. Buried HDPE pipe and fittings shall be installed in accordance with ASTM D 2321 or ASTM D 2774 for pressure systems and AWWA Manual of Practice M55 Chapter 8. The Design Window identified in AWWA M55 Chapter 5 (page 65 of 2006 version) shall be considered acceptable design and installation conditions.
- b. Unless noted otherwise, no thrust blocks shall be placed in the HDPE pipe system since the fused system is fully restrained.

3. Trenchless Installation Methods

- a. Installation of HDPE Pipe by Horizontal Directional Drilling shall follow the guidelines of ASTM F1962 or PPI TR-46 and the following requirements. If the following requirements conflict with ASTM F1962 or PPI TR-46, the following requirements shall govern.
 - 1.) HDD Subcontractor shall be a firm actively engaged in horizontal directional drilling for a minimum of five (5) years. Submit documentation verifying compliance prior to beginning work.
 - 2.) Contractor and its HDD Subcontractor shall be responsible for all Design Considerations, Construction Safety, Construction Practices and Drilling Fluid Containment and Disposal related to HDD installation of the steel casing. Contractor and its HDD Subcontractor shall follow the North American Society of Trenchless Technology (NASTT) Horizontal Directional Drilling (HDD) Good Practices Guidelines, latest edition.
 - 3.) Prior to beginning work, Contractor shall submit to the Owner a typewritten Work Plan providing detail of the proposed procedure and schedule to execute the project. The work plan will be comprehensive, realistic, and based on actual working conditions for this particular project. The work plan shall document the planning required to successfully complete the project. The work plan shall include complete descriptions of proposed plans, procedures, equipment, personnel, and if applicable, supporting material, for the following:
 - a.) Drilling operations: describe the pilot hole drilling procedure, the reaming operation, the pullback procedure and illustrate the plan.
 - b.) Profile of the bore plotted at a scale appropriate for the crossing and acceptable to the Engineer.
 - c.) HDD site layout including entry and exit points.
 - d.) Directional drilling equipment list to include at a minimum: drilling rig, drill bit, back-reamer, mud mixing and pumping systems, down-hole tools, guidance system, and rig safety system. Provide calibration records for guidance equipment.
 - e.) Drilling fluid management plan: drilling fluid types and specifications, cleaning and recycling equipment, estimated flow rates, procedures for minimizing drilling fluid escape, and the method/location for final disposal of waste drilling fluids. Provide the MSDS for all drilling fluid additives that will be used.
 - f.) Pipe storage and handling details.
 - g.) Pipeline assembly and installation procedures.
 - h.) MSDS of any potentially hazardous substances to be used.
 - i.) Contingency plans for possible problems.
 - 4.) Contractor shall clean the work site of all excess slurry or spoils within forty-eight (48) hours of completing installation.
 - 5.) Contractor shall submit to the Owner a bore log to the Owner within seven (7) days

- of the completion of each bore path. The bore log shall include all of the following:
- a.) Name of person collecting data, including title, position and company name.
 - b.) The detection method used, bore diameter, utility diameter, drilling fluid composition, composition of any other materials used to fill the annular void between the bore and the utility diameter, or utilities placed out of service.
 - c.) A plan view of the bore path showing depths and offset dimensions to an accuracy of within one (1) inch of the physically exposed beginning and end points of the bore and other exposed points along the path and indicate if the bore failed.
 - d.) A profile or log of the bore depths to the nearest inch of the facility. Said profile or log shall be referenced to the benchmarks() shown on the plans.
- 6.) Bore or reaming hole diameter shall not exceed 1.5 times the casing O.D.
 - 7.) Contractor shall conduct reaming and back-pulling operations continuously until completion of the installation of casing.
 - 8.) Contractor shall dispose of or recycle drilling fluids consistent with local, state and federal regulations.
4. Pipe Assembly: Pipe lengths shall be stored in such a location and manner as to eliminate the possibility of scoring, gouges or otherwise damaging the pipe.
- a. Sections of the pipe shall be assembled and joined together prior to insertion of the pipe. Assembly shall be accomplished above ground. If the liner is to be dragged when transported or inserted, then sleds, rollers or other similar devices shall be furnished and utilized by the contractor to protect the pipe wall from damage due to cuts, gouges, or scrapes.
 - b. Joining shall be accomplished by the Thermal Butt Fusion method, in strict accordance with the Manufacturer's recommendations and with ASTM F 2620 or PPI TR-33. During fusion, pipes shall be given adequate support on rollers to allow them free movement.
 - c. All completed joints shall be watertight at the rated pressure for the pipe and shall have strength characteristics equal to or greater than the pipe itself. Improperly made or damaged joints shall be repaired or replaced as directed by the Owner at the Contractor's expense. The Owner shall be provided with samples of butt fused joints for testing upon request.
 - d. Mechanical connection of HDPE to auxiliary equipment such as valves, pumps and fittings shall use mechanical joint adapters and other devices in conformance with the PPI Handbook of Polyethylene Pipe and AWWA Manual of Practice M55.
 - e. Mechanical coupling shall be made by qualified technicians. Qualification of the field technician shall be demonstrated by evidence of mechanical coupling training with the past year. This training shall be on the equipment and pipe components to be utilized for this project.
5. Installation of HDPE pipe and fittings shall be completed in accordance with ASTM D2321 or ASTM2774 for pressure systems and AWWA Manual of Practice M55.
- a. The HDPE shall be lubricated in such a manner and with such materials as recommended by the pipe manufacturer.
 - b. A pulling head shall be attached to the leading end of the polyethylene liner with a power winch cable connected thereto. The power winch and cable shall be of sufficient

rating to pull the liner through the existing pipeline. Winching forces shall be continuously monitored. The Contractor shall provide all pulleys, rollers, bumpers, and other equipment required to protect the existing pipeline and the pipe from damage during the pulling operation. Any damage to the existing pipeline or lining shall be rectified by the Contractor at his own expense.

- c. Caution must be taken not to stretch the pipe beyond its elastic limit in the event of an impediment. The Contractor shall maintain on hand such equipment as might be required to withdraw the liner.
- d. Once insertion is initiated, the Contractor shall complete the pull without interruption.
- e. After insertion, the liner shall be allowed a minimum of twelve hours (or as otherwise recommended by the pipe manufacturer) to reach temperature equilibrium with the existing pipeline and to stress-relieve itself. After the liner has reached temperature equilibrium and stress-relieved itself, the lining shall be cut and finished, as required.

B) FLUSHING, CLEANING AND DISINFECTING

- 1. All mains shall be cleaned and flushed to remove all foreign matter.
- 2. Cleaning and disinfecting of potable water systems shall be in accordance with AWWA C651 and AWWA Manual of Practice M55 Chapter 9, and PPI Handbook of Polyethylene Pipe Chapter 2 (2nd Edition). The disinfection chemicals should be limited to less than 12% active chlorine. The duration of the disinfection should not exceed 24 hours. Upon completion, the system should be thoroughly flushed with fresh water, and sampled to verify the disinfectant chlorine level has been reduced to potable drinking water concentrations in all service water tubing and branch lateral pipes.
- 3. Obtain safe bacteriological samples on two consecutive days before placing the waterline into service.

C) TESTING AND LEAKAGE

- 1. All pumps, valves, temporary connections, temporary bulkheads, meters, gauges and other measuring devices shall be furnished, installed and operated by the Contractor and all such equipment and devices and their installation shall be approved by the Owner's Representative. The contractor shall restrain pipe, components, and test equipment as required to insure testing can be accomplished in a safe manner, including protection of personnel, equipment, and public in the event of a failure during testing.
- 2. The pressure gauges or data recorders should be calibrated and sufficiently sized to provide mid-range data (pressure tested will not be below 10% or greater than 90% of gauge capacity) that result in easy reading, interpretation. Gauges shall be accurate to within 2% of full scale with increments no greater than 10 psi.
- 3. Pressure Pipelines-Pressure testing shall be conducted in accordance with requirements and recommendations of ASTM F 2164 (Field Leak Testing of Polyethylene Pressure Piping Systems Using Hydrostatic Pressure), AWWA Manual of Practice M55 Chapter 9, and PPI Handbook of Polyethylene Pipe Chapter 2 (2nd Edition). Pneumatic (compressed air) leakage testing of HDPE pressure piping is prohibited for safety reasons.
 - a. The section of pipe to be tested shall be filled with potable approved by the Owner/Engineer. While the system is being filled with water, air shall be carefully and completely exhausted. If permanent air vents are not located at all high points, the Contractor shall install fittings and valves at such points so the air can be expelled as the pipe system is slowly filled with water.
 - b. If the Contractor elects to perform hydrostatic testing against valves in an existing

distribution system, it does so at his own risk and will bear the cost of any damages to the existing valve, piping system, private or public property, or the new pipeline under test.

- c. The test procedure for HDPE pipe consists of two steps: 1) the initial phase or expansion phase and 2) the test phase. During the initial/expansion phase, sufficient make-up water shall be added hourly for 3 hours to return to the test pressure. During the test phase, the expansion phase pressure is reduced by 10 psi to test phase pressure and monitored for at least one hour (3 hours maximum).
- d. Under no circumstances shall the total time under test exceed eight (8) hours. If the test is not completed due to leakage, equipment failure or any other reason, depressurize the test section and permit the system to "relax" for eight (8) hours prior to the next testing sequence.
- e. The test pressure should be related to the lowest point in elevation along the test section's vertical pipeline profile.
- f. All pressure and leakage testing shall be done in the presence of a representative of the Owner.
- g. The test pressure shall be 1.5 times the operating pressure at the lowest point in the system. In accordance with section 9.8 of ASTM F 2164, the pipe shall pass if the final pressure is within 5% of the test phase pressure for the testing period (3 hours maximum). If the test section fails this test, the Contractor shall repair or replace all defective materials and/or workmanship at no additional cost to the Owner.
- h. Leakage must not exceed 10 gal/inch diameter per mile of pipe per 24 hours at 150 psi testing pressure.

529.07 – METHOD OF MEASUREMENT

Payment shall be made pursuant to Section 505 for water line.

529.08 – BASIS OF PAYMENT

Such payment shall be compensation in full for furnishing all materials, labor, equipment, tools and incidentals, and for performing the work in accordance with these specifications.

532 – TAPPING SLEEVES

532.01 - DESCRIPTION

This section covers tapping sleeves intended to be used for tapping water mains.

532.02 - MATERIALS

Tapping sleeves shall be manufactured in accordance with AWWA C-110 and equipped with gaskets made in accordance with AWWA C-111. Tapping Sleeve shall be Ductile Iron. Tapping sleeves shall be Mueller H-615 M. J. Tapping sleeve, or approved equivalent. Stainless Steel sleeves will not be permitted.

532.04 – CONSTRUCTION METHODS

The installation shall conform to the recommendation of the manufacturer of the pipe being tapped. Tapping sleeves shall be pressure tested. Sleeves shall maintain 150 psi for a minimum of two hours.

532.06 – METHOD OF MEASUREMENT

Payment for "Tapping Sleeve" shall be included in the unit price bid per each for Tapping Valve and Sleeve. The price established shall be full compensation for furnishing and placing of all materials including tapping sleeve, labor, tools, equipment, and incidentals necessary to complete this item of work.

532.07 – BASIS OF PAYMENT The items measured as provided above will be paid for at the contract unit price bid:

(SIZE) TAPPING VALVE AND SLEEVE..... EA.

Such payment shall be compensation in full for furnishing all materials, labor, equipment, tools and incidentals, and for performing the work in accordance with these specifications.

SECTION 533 – TAPPING CLAMPS

533.01 – DESCRIPTION

This section covers tapping clamps used for tapping water mains.

533.04 – CONSTRUCTION METHODS

- A) General -Tapping clamps shall have a body with a threaded outlet, seal, and suitable means for attachment to the main. The body shall be made to conform to the outside configuration of the main. Tapping clamps shall be designed to provide a drip-tight connection when used as a service connection to the main.
- B) Tapping clamps shall be required when tapping other than cast iron or ductile iron pipe. Clamps may be required on older cast-iron and ductile iron as directed by the Engineer. Tapping clamps shall be the same size as the service line. The reducing of tapping clamps shall not be allowed.
- C) Tapping Clamps shall meet the requirements of Section 510.

533.06 – METHOD OF MEASUREMENTS

Tapping clamp(s) will not be measured separately.

533.07 – BASIS OF PAYMENT

All cost of tapping clamps shall be included in the price bid for water services.

Such payment shall be compensation in full for furnishing all materials, labor, equipment, tools and incidentals, and for performing the work in accordance with these specifications.



**RFP CMA-2401
WATER MAIN
CONSTRUCTION
SPECIFICATIONS
SUPPLEMENT
LARGE WATER MAINS**

TABLE OF CONTENTS SECTION 500
SUPPLEMENT – LARGE WATER MAINS

SECTION 500 – CONSTRUCTION REQUIREMENTS2

SECTION 505 – PIPE AND FITTINGS INSTALLATION.....3

SECTION 518 – THRUST BLOCKS3

SECTION 524 – DUCTILE IRON PIPE (DIP)3

SECTION 528 – STEEL CASING PIPE7

SECTION 500 – WATER MAINS

SUPPLEMENT – LARGE WATER MAINS

SECTION 500 – CONSTRUCTION REQUIREMENTS

500.01 – DESCRIPTION

This supplement to Section 500 provides general requirements for construction of water mains with nominal diameter of 16" through 20" as described herein. The intent of this supplement is to contain requirements specific to these sizes of water mains, in addition to those requirements listed in Section 500. The specifications listed herein, where in conflict with Section 500 specifications for water mains in size 6" through 12", shall supersede those contained in Section 500 for water mains in size 6" through 12".

All design, materials, construction, sampling and testing shall comply with ODEQ rules and regulations and AWWA Standards.

500.02 - EXCAVATION AND BACKFILLING

A.) PIPE TRENCH EXCAVATION

The minimum width of trench cut for each size of pipe shall be as follows:

SIZE OF PIPE (inches)	WIDTH OF TRENCH (inches)
16	32
18	34
20	36

500.09 – DEPTH OF COVER

Where not otherwise indicated on plans, the pipe shall be laid at an elevation that will provide after completion, a minimum depth of cover over the top of pipe of thirty inches (30") below the surface. Maximum depth of cover over the top of the pipe shall be 14 feet.

500.10 – STANDARD DESIGN CONDITIONS

A) **Standard Design Pressures** - Unless otherwise specified, all pipes and fittings shall be designed for the following minimum pressure conditions:

Minimum Internal Pressure (psi)		
Working	Surge	Design
150	100	250

B) **Live Loading** -Unless otherwise specified or called for on the plans, minimum pipe design corresponding to the specified design pressure shall be for highway live loading condition and where waterline is crossing or running parallel to the railroad, corresponding minimum pipe design for railroad live loading condition shall govern (with or without casing).

C) Large water main pipe materials shall be ductile iron pipe (DIP). All water main pipe shall be new.

END OF SECTION

SECTION 505 – PIPE AND FITTINGS INSTALLATION

505.01 – DESCRIPTION

This section covers installation of pipes in open-cuts, in conformity with the lines, grades, and dimensions and as provided in applicable sections of these specifications.

505.02 – MATERIALS

505.02.01 – PIPE AND FITTINGS

Acceptable pipe materials and fittings shall meet the requirements of the appropriate sections listed below:

Pipe Material	Section
Ductile Iron Pipe (DIP)	524

All pipe and fittings shall be new.

SECTION 518 – THRUST BLOCKS

518.01 – DESCRIPTION

This section covers thrust blocks intended to be used to transmit unbalanced thrust forces into undisturbed soil.

518.02 – MATERIALS

High Early Strength Concrete shall be used for thrust blocks. Compressive strength of concrete shall be minimum 3500 psi at three (3) days.

518.04 – CONSTRUCTION METHODS

All construction shall be in accordance with the Large Water Main Standard Details for Thrust Blocks.

518.06 – METHOD OF MEASUREMENT

"Thrust Blocks" will not be measured and paid for separately.

518.07 – BASIS OF PAYMENT

All cost of installing thrust blocks shall be included in the price bid for water line.

SECTION 524 – DUCTILE IRON PIPE (DIP)

524.01 – DESCRIPTION

This section covers ductile iron pipe and fittings, for pressure applications, intended to be used for conveyance of potable water, in sizes sixteen inches (16") through twenty inches (20").

524.02 – MATERIALS

524.02.01 – GENERAL

All ductile iron pipe and fittings and installation of same shall conform to the requirements of the following standards listed below or as modified herein.

A) ANSI/AWWA C-150/A 21.50, Thickness design of Ductile Iron Pipe

B) ANSI/AWWA C-151/A 21.51, Ductile Iron Pipe, Centrifugally Cast

C) ANSI/AWWA C-111/A 21.11, Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings.

D) ANSI/AWWA C-104/A 21.4, Cement Mortar Lining for Ductile Iron Pipe for Water.

- E) ANSI/AWWA C-600, Installation of Ductile Iron Water Mains and Their Appurtenances.
- F) ANSI/AWWA C-115/A 21.15, Flanged Ductile Iron Pipe with Threaded Flanges.
- G) ANSI/AWWA C-116/A 21.16, Protective Fusion-Bonded Epoxy Coatings for Interior and Exterior surface of Ductile Iron and Gray Iron Fitting
- H) ANSI/AWWA C-153/A 21.53, Ductile Iron Compact Fittings
- I) NSF/ANSI 61, Drinking Water System Components –Health Effects

524.02.02 – SUBMITTALS

The Contractor shall submit the following and shall receive approval of same from the Engineer prior to incorporating any materials into the work.

Review and approval of the Contractor submittals, by the Engineer, shall not be construed in any way as relieving the Contractor and the manufacturers of their responsibilities for manufacturing ductile iron pipe and fittings as described herein.

- A) General - Detail drawings of pipes, specials, fittings, and joints.
- B) Certification - Type "A" and "D" certification for pipe, specials, fittings, gaskets, and lining material pursuant to, but not limited to, applicable standards in Section 524. The affidavits of compliance and test reports shall be certified by a registered professional engineer.
- C) Copies - The Contractor shall provide three (3) copies of all submittals.

524.02.03 – DESIGN BASIS

- A) General

All ductile iron pipes are designed in accordance with AWWA C-150/ANSI 21.50. The designs are based on prism load of ordinary clay backfill with a unit weight of one hundred twenty pound per cubic feet (120 pcf), maximum horizontal ring deflection of three (3%) percent, design factor safety of two (2), and for AASHTO HS-20 truck highway (HWY) or Cooper axle E-80 railroad (RR) live loading conditions.
 - B) Depth of Cover

The minimum design depth of cover shall be thirty inches (30"). Pipe to be installed inside a casing shall be designed for full cover including live load (a single H-20 or Railroad E-80) neglecting the casing.
 - C) Laying Condition

Type 3 Laying Conditions, as defined in AWWA C150 shall be used for all Large Water Mains. In accordance with AWWA C150, the description of Type 3 Laying Conditions is pipe-bedded in four inches minimum loose soil, with backfill lightly consolidated to top of pipe. Loose soil is defined as "native soil excavated from the trench free of rocks, foreign material, and frozen earth"
 - D) Deflection

The allowable defection for the specified mortar lining system is three (3%) percent. Deflection calculation is in accordance with AWWA C150.
 - E) Bending and Hoop Stresses

The bending and hoop stress requirements are met in accordance with AWWA C150.
 - F) Buckling
1. Buried Installations
- The controlling load for buried pipes is determined from the greater of hydrostatic and earth loads plus vacuum or hydrostatic and earth load plus live load with a factor of safety of two (2.0) as determined in accordance with Section 6.3 of AWWA M-11. It is assumed that the groundwater level is equal to natural ground surface and the ground is fully saturated.

2. Unburied Installations

For unburied pipes, the internal collapsing vacuum pressure is used in determining the minimum wall thickness in accordance with equation 4-2 of AWWA M11 for a factor of safety of 1.5 against buckling. The Poisson's ratio is 0.28 and modulus of elasticity is 52×10^6 psi.

3. Vacuum Pressure

For both buried and unburied installations, the internal collapsing vacuum pressure is taken as 14.7 psi.

524.02.04 – MINIMUM PIPE DESIGN FOR DUCTILE IRON PIPE

Unless otherwise specified, ductile iron pipe and fittings for buried installations, including boring, shall have the following minimum nominal wall thickness, shown below.

For boring, installations, the minimum pipe design shall be equal to or greater than the minimum pipe design on either side of the installation.

Minimum Pipe Design for Ductile Iron Pipe		
Pipe Size (inches)	Nominal Push-on Joint Wall Thickness Pressure Class 250 (Inches)	Flange Joints Class 53 (inches)
16	0.30	0.43
18	0.31	0.44
20	0.33	0.45

524.02.06 – PIPE JOINTS AND FITTINGS

A) General

All specials and fittings may be used with push-on, mechanical, or flanged joints conforming to the requirements of AWWA/ANSI C-110/A 21.16. Fittings with push-on joints shall be installed with thrust blocks or mechanical joint restraints. Mechanical joints shall be adequately protected against unbalanced forces. All joints shall have the same pressure rating as the pipe of which they are a part and shall meet the requirements of AWWA/ANSI C-111/A 21.11. All pipe shall be marked in accordance with Sec. 4.7 of AWWA C-151.

B) Push-on Joints

Push-on joints are a rubber gasket compression type joint meeting the requirements of AWWA C-111. Push-on joints shall have a deflection capability of three degrees (3°).

C) Mechanical Joints

A mechanical joint is a bolted joint of the stuffing-box type. Each joint shall consist of a bell that is cast integrally with the pipe or fitting and provided with an exterior flange having bolt holes or slots, and a socket with annular recesses for the sealing gasket and the plain end of the pipe or fitting, a pipe or fitting plain end, a sealing gasket, a follower gland with bolt holes, and T-head and hexagonal nuts.

D) Flanged Joints

The flanged joints for ductile iron pipe shall be in accordance with AWWA C-111. Bolts, gaskets, and installation shall meet the requirements of AWWA C-115, Appendix A. The flanged joints for specials and fittings shall meet the requirements of AWWA C-110.

The flanges shall be rated for two hundred fifty (250 psi) pounds per square inch working pressure with bolt-hole drillings as for Class 125 flanges for service at temperatures ranging from twenty degrees (20°) to one hundred fifty degrees F (150°F) are pressure temperature rated for one hundred fifty (150) to two hundred pounds per square inch (200 psi) as shown in ANSI B 16.1. All flanged joints shall be made with single piece, red rubber gaskets one-eighth (1/8") inch thick. Gaskets shall be full face for exposed installations and ring type or full faced for buried service meeting AWWA C-110, Appendix A requirements. As directed by the Engineer or shown on plans, flange joints meeting the requirements of ASME/ANSI B-16.1 may be used.

E) Mechanical Joint Restraints

Mechanical Joint Restraints may be used in conjunction with, or in lieu of, thrust blocks. Use of Mechanical Joint Restraints in lieu of thrust blocks relies in part on minimum lengths of restrained pipe. The procedure for determining the minimum length of restrained pipe shall follow "Thrust Restraint Design for Ductile Iron Pipe", Sixth Edition as published by the Ductile Iron Pipe Research Association, or other design procedure approved by the City Engineer.

Use of Mechanical Joint Restraints in conjunction with or in lieu of thrust blocks shall be designed by a Professional Engineer registered in the State of Oklahoma. All design calculations and resultant dimensions and installation information shall be submitted to the City Engineer for review and approval prior to use.

Mechanical Joint Restraints, if used, shall be as follows or approved equal.

Company	Type
EBAA Iron Sales Co.	Mega-Lug Series 1100
N/A	¾" all thread with Duc Lug

F) Sleeve Couplings

All sleeve couplings, except as noted on the plans or otherwise specified, shall be restrained with tie rods and shall be designed for the pipe design pressure and maximum allowable stress not to exceed sixty-five percent (65%) of minimum yield strength of steel used. Sleeve couplings shall be:

Dresser Style 38
Smith Blair
Approved Equal

Sleeve Couplings shall be compact fittings meeting the requirements of AWWA C-153 and AWWA C-110

524.02.07 – COATING AND LINING

A) Exterior Coating

The exterior of ductile-iron pipe, specials and fittings shall be coated with the asphalt coating in accordance with AWWA C-151, Section 516. The coating shall have a minimum thickness of one (1) mil. The finished coating shall be smooth, continuous and strongly adherent to the pipe. Any damage to the outside coating during shipping, storage, handling and installation shall be field repaired with a fresh coating in accordance with the manufacturer's recommendations.

B) Interior Lining

Unless otherwise called for on the plans or specified, the interior of ductile-iron pipe, specials and fittings shall be cement mortar lined in the shop, with centrifugally spun lining in accordance with AWWA C-104. The Portland cement for cement mortar lining shall be in accordance with the requirements of ASTM C-150, Type I cement. Field repair of lining shall be made in accordance with AWWA C-104, Section 4-7.2.

524.02.08 – CORROSION PROTECTION

When specified or called for on the plans, all ductile-iron pipe, specials, fittings and other appurtenances shall be polyethylene encased in accordance with AWWA C-105/ANSI A 21.5. Exposure to sunlight of polyethylene wrapped pipe shall be kept to a minimum to prevent deterioration of polyethylene. Damage to polyethylene wrapping shall be prevented during backfilling operations. The minimum thickness for polyethylene is eight (8) mils.

524.05 – SOURCE QUALITY CONTROL TESTING

A) Ductile Iron Pipe shall be tested at the manufacturer's plant by the manufacturer in accordance with Sec. 5.2 of AWWA C-151.

B) Ductile Iron fittings shall be tested at the manufacturer's plant by the manufacturer in accordance with Sec. 5.2 of AWWA C-153.

C) Joint Testing

Joints shall be tested and meet the performance requirements established in AWWA C-111/ANSI A 21.11, Section 11-9 and as modified herein. The working pressure rating of the joint shall be established by subjecting the joints to three (3%) percent of the pipe produced to hydrostatic pressure of twice the rated working pressure, but in no event less than twice the minimum working pressure rating shown below. At least two (2) joints shall be hydrostatically tested at a deflected angle of the degrees (3°) at the above specified pressure rating.

The minimum working pressure ratings for joints shall be 350 psi.

D) Contractor shall provide certifications stating the pipe and fittings meet these requirements.

E) Welding

All welding shall be done by qualified welders. The ductile-iron pipe manufacturer shall be responsible for quality control and testing of all welding done in the plant during fabrication of special fittings.

F) Inspection

The City retains the right to inspect the pipe, specials and fittings, all work performed and materials furnished, at the manufacturer's plant and at the project site and to independently monitor the fabrication of the pipe, specials and fittings. Such inspection shall not relieve the Contractor or the manufacturer of their responsibilities to furnish material and perform work in accordance with these specifications.

524.06 – METHOD OF MEASUREMENT

Payment shall be made pursuant to Section 505 for water line.

524.07 – BASIS OF PAYMENT

Such payment shall be compensation in full for furnishing all materials, labor, equipment, tools and incidentals, and for performing the work in accordance with these specifications.

SECTION 528 – STEEL CASING PIPE

528.01 - DESCRIPTION

This section covers steel pipe intended to be used as a casing pipe for boring installations.

END OF PAGE

528.02 – MATERIALS

528.02.01 – SUBMITTALS

The Contractor shall submit the following, provided that all applicable requirements are met, and that visual inspection at destination shows the workmanship and condition of material to be satisfactory.

- A) Type "A" certification for pipe
- B) Shop drawings of pipe, joints and seams
- C) Documentation of manufacturer's on-going quality control program.

528.02.02 – GENERAL

A) General

Steel pipe shall conform to ASTM A-139, Standard Specification for Electric-Fusion (ARC)-Welded Steel Pipe (NPS 4 and Over). The steel material shall be new, smooth wall, carbon steel, Grade B, with minimum sixty thousand pounds per square inch (60,000 psi) tensile strength, and minimum thirty-five thousand pounds per square inch (35,000 psi) yield strength.

The Pipe shall be straight seam pipe, shall be one hundred (100%) percent welded, and the weld's height over the outside wall surface shall be equal to or less than three-sixteenths (3/16") inch. All steel pipe shall be square cut and shall have a roundness such that the difference between the major and minor outside diameters shall not exceed one percent (1%) of the specified nominal outside diameter or one-fourth inch (1/4"), whichever is less. The outside circumference must be within plus or minus (±) one percent (1%) of the nominal circumference or within plus or minus (±) one-half inch (1/2"), which is less. The pipe shall have a maximum allowable straightness deviation in any ten foot (10') length of one-eighth inch (1/8"). Steel pipe joints shall be continuously welded with an approved butt weld. The welds shall attain the full strength of the pipe and shall result in a fully watertight section. The welded joints shall conform to the requirements of AWWA C-206.

B) Boring Installation

1. Casing Pipe Size – Steel casing pipe shall have the follow minimum inside diameters:

Pipe Nominal Size (inches)	Casing Pipe Inside Diameter (inches)
16	24
18	28
20	30

2. Casing Pipe Thickness - Steel casing pipe wall thickness shall be 3/8" minimum.

528.07 – BASIS OF PAYMENT

Payment shall be made pursuant to the appropriate Section of 505.



**RFP CMA-2401
WATER MAIN
CONSTRUCTION
SPECIFICATIONS
PRESSURE-REDUCING
VALVE (PRV)**

PRESSURE REDUCING VALVES

1.01 PRESSURE REDUCING VALVE

- A. Supply and install a 6-inch Singer Model S106-PR-X107 Pressure Reducing Control Valve, Singer Valve schematic A-0306C or approved equivalent. All incidentals shall be included in the contract price. The following specifications shall be considered as the minimum requirements. All components shall be factory-installed and tested.
- B. The following items shall be included and will not be considered as optional items requiring additional purchase:
 - a. Stem-mounted visual valve position indicator with bleed/vent cock.
 - b. Inlet and outlet pressure gauges - Stainless steel, liquid filled, rated 0 - 200 psi, Winters PFQ-LF Series or approved equal.
- C. All valves and components shall be rated lead-free compliant.
- D. All valves and components shall comply with NSF/ANSI 61.
- E. Function: The valve shall be a pilot operated pressure reducing valve which will reduce a high inlet pressure to a low outlet pressure. The valve shall maintain a relatively constant downstream pressure regardless of fluctuations in supply pressure or flow rate.
- F. Operation: The pilot shall be a normally open pressure reducing pilot that reacts to changes in downstream pressure, acting to modulate the main valve bonnet pressure to hydraulically adjust the inner valve assembly position and maintain a constant downstream pressure.
- G. Provide full product documentation with project submittals verifying compliance with these specifications.

1.02 Quality Assurance

- A. The control valve shall be tested prior to shipment. The standard test shall include a functional stroke, pressure and leak test of valve body, seat, fitted pilots and accessories.
- B. The control valve shall be covered by a minimum three (3) year warranty against defects in materials and workmanship. The AISI 316 stainless steel seat ring shall be covered by a lifetime guarantee.
- C. All control valve maintenance and repairs shall be possible without removing the main valve body from the line, when installed in accordance with manufacturer's recommendations.

1.03 Main Valve

- A. The main valve shall be a globe style body, single chamber, diaphragm actuated full port model.
- B. The main valve shall have flanged connections. Flanged connections shall be ANSI/ASME B16.42 Class 150# flange rated, drilled and faced, 250 psi maximum working pressure.
- C. Threaded connections shall be NPT.
- D. Main valves shall provide smooth frictionless motion to ensure a low flow stability to approximately one (1) USGPM.
- E. Preference may be given to using SRD-Single Rolling Diaphragm technology.
- F. The main valve, bonnet and removable stem cap shall be constructed of ASTM A536 (Grade 65/45/12) ductile iron.
- G. Main valves shall have a removable stem cap for access to the main valve stem for alignment check, spring installation and ease of service and assembly.
- H. The main valve bonnet shall be located using two or more locating guide pins to maintain the inner valve assembly alignment and for ease of maintenance.
- I. The main valve trim, consisting of seat ring and stem shall be constructed of AISI 316 stainless steel. The valve stem shall have wrench flats for ease of maintenance.
- J. The main valve shall provide a drip-tight seal using a mechanically retained resilient disc, having a rectangular cross section, against the stationary AISI 316 stainless steel seat ring.
- K. The stationary AISI 316 stainless steel seat ring of main valves shall be held in place using Spiralock® self locking screws and seat ring retainers, or approved equal.

- L. All internal and external ferrous components, including all mating surfaces, shall be coated with an NSF-61 approved fusion bonded epoxy to a minimum of 10 mils DFT-Dry Film Thickness.
- M. The main valve elastomers: diaphragm, resilient disc and seals, shall be of EPDM or Buna-N.
- N. All main valve fasteners (bolts, nuts, studs, cap screws) shall be supplied as AISI 18-8 or 304 stainless steel. All bonnet bolts shall be fitted with stainless steel washers to prevent damage to the bonnet coating.

1.04 Pilot Controls

- A. The pressure reducing pilot shall be a normally open pilot with a spring to adjust the pressure setting. The pilot shall be self-cleaning and self-flushing with the outlet of the pilot located at the bottom of the pilot flow with the pilot stem out of the waterway and guide free from any debris build-up.
- B. The pilot trim, consisting of a seat ring, stem and yoke shall be constructed of AISI 316 stainless steel.
- C. The pilot elastomers: diaphragm, inner valve and seals, shall be of EPDM or Buna-N.
- D. The adjustable pilot spring range shall be supplied with a minimum spring range of 30 to 200 psi. The pilot shall be factory preset at 65 psi.
- E. The pilot body and spring casing shall be constructed of ASTM A351 CF8M stainless steel.
- F. A fixed restriction shall be supplied as AISI 303 stainless steel with an orifice bore selected by the manufacturer based on the valve size and operation.
- G. The adjustable flow stabilizer shall be a self-cleaning opening speed control, supplied as a stainless steel assembly.
- H. The pilot fittings shall be AISI 316 stainless steel.
- I. The pilot tubing shall be PTFE lined flexible braided stainless steel.
- J. Three (3) pilot isolation ball valves shall be supplied as standard. Pilot isolation ball valves shall be constructed of 316 stainless steel with stainless steel handle operators.
- K. A pilot strainer shall be supplied as standard. Strainer material to be ASTM A351 CF8M stainless steel with a 40-mesh or 80-mesh 316 stainless steel screen. The external pilot strainer shall have a removable plug for easy maintenance access to the pilot screen and have provision for installation of a ball valve for pilot screen flushing.



Chickasha Municipal Authority, Oklahoma

RFP CMA-2401 SPECIAL PROVISIONS

SPECIAL PROVISIONS
RFP CMA-2401
WATER MAIN CONSTRUCTION
ADA SPUER AVENUE AT UNION PACIFIC RAILROAD

1. GENERAL

- 1.1. These Special Provisions are supplemental to the General Provisions and shall be considered as a part of the specifications and contract. In case of conflict between the stipulations of the Special Provisions and the specifications, plans, or general provisions, the Special Provisions shall take precedence and govern. The Owner's Representative shall make interpretation of the plans and specifications.
- 1.2. The Contractor's work consists of furnishing all tools, labor, plant, equipment, materials, and performing all work necessary for the complete construction of all improvements shown on the plans in strict accordance with the plans and specifications.
- 1.3. It is the intent of these plans and specifications to prescribe a complete work and improvement. Where items of work are necessary for the satisfactory completion of the improvement, for which specific contract prices are not provided in the proposal and contract, then such work shall be considered incidental to the main construction and any costs involved shall be reflected in such other prices as are provided.
- 1.4. The successful bidder shall furnish Performance Bond, Statutory Bond, and Maintenance Bond each in the amount of 100 percent of the contract, in accordance with Oklahoma Statutes.
- 1.5. Waiver of Legal Rights. Inspection by the Owner's Representative or by any the duly authorized representative(s) of the Owner's Representative or any order, measurement or certificate by the Owner's Representative of any work or any extension of time or any possession taken by the Owner shall not operate as a waiver of any provisions of the contract or any power therein provided. Any waiver of any breach of contract shall not be held to be a waiver of any other or subsequent breach. The Owner reserves the right to correct any error that may be discovered in any estimate that may have been paid and to adjust the same to meet the requirements of the contract and specifications. The Owner reserves the right to claim and recover by process of law sums as may be sufficient to correct any error or errors or make good any deficiency in the work resulting from such error or deficiency, dishonesty, or collusion discovered in the work after the final payment has been made.
- 1.6. Subletting of Contract. The Contractor shall not sublet, sell, transfer, assign, or otherwise dispose of the Contract or Contracts or any portion thereof, or any of his rights, title, or any interests therein, without written consent of the Owner.
 - 1.6.1. Requests for permission to sublet, or otherwise dispose of any portion of the Contract work shall be in writing and accompanied by a statement showing that the organization which will perform the work is particularly experienced and equipped for such work. No Subcontracts, or transfer of Contract, shall in any case release the Contractor of his liability under the Contract and bonds.
 - 1.6.2. Should the Contractor assign any of his right title or interest in the Contract said

assignment shall be made only with the full knowledge and written consent of the Surety. It is specifically understood that a violation of this Subsection will constitute an act of default on the part of the Contractor.

1.7. Purchases made for this project will not be exempt from sales taxes and use taxes.

1.8. The General Provisions contained herein and these Special Provisions shall govern the work.

1.9. Oklahoma Department of Environmental Quality rules and regulations, Oklahoma Department of Transportation Utility Permit Regulations and City of Chickasha/Chickasha Municipal Authority standards and specifications shall govern Water Main Construction.

2. MATERIALS SUBMITTAL

The Contractor shall submit portable data file (pdf) copies of detailed descriptive (and completely legible) information, concrete mix designs, asphalt mix designs, aggregate gradations, reinforcing steel bar lists and mill test reports, catalog cuts, certifications, etc., of all material items he proposes to use on this project. Submittals are due when the Notice to Proceed is issued. Revised submittals are due two weeks prior to use of the material. Submittals shall be presented in the order in which they are specified, i.e., by section number, followed by items described on the drawings. Identifying marks shall be used on descriptive sheets, certifications and catalog cuts to indicate exactly which item is being presented for approval. The Owner reserves the right to require submittal of hard copy documents.

3. SUBSTANTIAL COMPLETION AND FINAL COMPLETION

3.1. SUBSTANTIAL COMPLETION. The intent of this term is to imply complete use of the facility by the Owner during the construction period.

3.2. FINAL COMPLETION. The project shall be completed in accordance with the number of Calendar Days as stated in the proposal and contract.

4. DISPOSAL OF WASTE MATERIALS AND CLEAN-UP

4.1. All waste materials shall become Contractor property to be disposed of in a manner approved by the Owner's Representative. The Owner reserves the right to claim selected items that are determined to have potential value to the City and will instruct the Contractor as to their disposition. The Contractor shall provide transportation for disposition of all waste materials regardless of their destination.

4.2. Before the project is accepted by the Owner, the area must be cleaned of all foreign materials such as rock, wood, etc. that could be picked up by mowers. The Owner's Representative and the Contractor shall make a thorough inspection of the area before final inspection of the project is made. Failure of the Contractor to clean up the jobsite could delay final inspection and thereby delay final payment on his contract. The cleaning up of the project work area is incidental to all other work involved, and no separate payment for this work will be made.

5. The Owner reserves the right to consider alternative proposals submitted in writing by responsive bidders.
6. Dewatering will not be paid for separately but shall be considered incidental to the work. Cost of dewatering, if needed, will be included in other items of work.
7. Only 11" x 17" size plans shall be issued for this project.
8. **AS-BUILT DRAWINGS**
As-built drawings are the marked-up drawings, maintained by the Contractor on-site, that depict actual conditions and deviations from the Contract Documents. Maintain the as-built drawings throughout construction as red-lined hard copies on site. Submit As-built drawings prior to issuance of final payment.

Show on the as-built drawings the following information:
 - 8.1. The actual locations of valves and fire hydrants by dimensioning along the utility run from a reference point.
 - 8.2. Unusual or uncharted obstructions that are encountered in the contract work area during construction.
 - 8.3. Any other deviations from the contract drawings.
9. The Oklahoma Department of Environmental Quality Permit-to-Construct WL000026240088 issued on June 27, 2020 for this project, copy of which is included at the end of these Special Provisions, is hereby incorporated into the Contract Documents by reference. All requirements of said Permit-to-Construct apply to this project.
10. The Union Pacific Railroad Pipeline Crossing Agreement, Project No. 0795064 issued on April 8, 2024 and all related documentation for this project, copy of which is included at the end of these Special Provisions, is hereby incorporated into the Contract Documents by reference. All requirements of said Pipeline Crossing Agreement and related documents apply to this project.

ATTACHMENTS TO SPECIAL PROVISIONS FOLLOW

June 27, 2024

Mr. Keith Johnson, General Manager
Chickasha Municipal Authority
117 N. 4th Street
Chickasha, Oklahoma 73018

Re: Permit No. WL000026240088
Water Main to serve Ada Sipuel Avenue at Union Pacific Railroad
Facility No. 1010821

Dear Mr. Johnson:

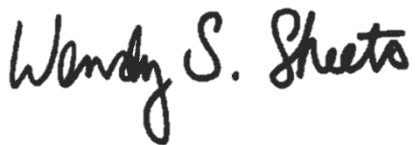
Enclosed is Permit No. WL000026240088 for the construction of 70 linear feet of six (6) inch DIP and 715 linear feet of sixteen (16) inch DIP for water line distribution and all appurtenances to serve the Water Main to serve Ada Sipuel Avenue at Union Pacific Railroad, Grady County, Oklahoma.

The project authorized by this permit should be constructed in accordance with the plans approved by this Department on June 27, 2024. Any deviations from the approved plans and specifications affecting capacity, flow or operation of units must be approved, in writing, by the Department before changes are made.

Receipt of this permit should be noted in the minutes of the next regular meeting of the Chickasha Municipal Authority, after which it should be made a matter of permanent record.

We are returning one (1) set of the approved plans to you, one (1) set to your engineer and retaining one (1) set for our files.

Respectfully,



Wendy S. Sheets, E.I.
Construction Permit Section
Water Quality Division

c: Zachary McIntosh, Regional Manager, DEQ
OKLAHOMA CITY DEQ OFFICE
Randall Scott Vaughn, P.E., Chisholm Trail Consulting, LLC

PERMIT No. WL000026240088

WATER LINES

FACILITY No. 1010821

PERMIT TO CONSTRUCT

June 27, 2024

Pursuant to O.S. 27A 2-6-304, the Chickasha Municipal Authority is hereby granted this Tier I Permit to construct 70 linear feet of six (6) inch DIP and 715 linear feet of sixteen (16) inch DIP for water line distribution and all appurtenances to serve the Water Main to serve Ada Sipuel Avenue at Union Pacific Railroad, located in NW/4 of Section 34T-7-N, R-7-W, SW/4 of Section 27, T-7-N, R-7-W, Grady County, Oklahoma, in accordance with the plans approved June 27, 2024.

By acceptance of this permit, the permittee agrees to operate and maintain the facility in accordance with the Public Water Supply Operation rules (OAC 252:631) and to comply with the State Certification laws, Title 59, Section 1101-1116 O.S. and the rules and regulations adopted thereunder regarding the requirements for certified operators.

This permit is issued subject to the following provisions and conditions.

- 1) This water line provides adequate fire flow in accordance with the 2009 International Fire Code through the approved hydraulic analysis. The fire flow provided is 1,500 gpm.
- 2) That the recipient of the permit is responsible that the project receives supervision and inspection by competent and qualified personnel.
- 3) That construction of all phases of the project will be started within one year of the date of approval or the phases not under construction will be resubmitted for approval as a new project.
- 4) That no significant information necessary for a proper evaluation of the project has been omitted or no invalid information has been presented in applying for the permit.
- 5) That the Oklahoma Department of Environmental Quality shall be kept informed on occurrences which may affect the eventual performance of the works or that will unduly delay the progress of the project.
- 6) That wherever water and sewer lines are constructed with spacing of 10 feet or less, sanitary protection will be provided in accordance with Public Water Supply Construction Standards [OAC 252:626-19-2].
- 7) That before placing this facility into service, at least two samples of the water, taken on different days, shall be tested for bacteria to show that it is safe for drinking purposes.

PERMIT No. WL000026240088

WATER LINES

FACILITY No. 1010821

PERMIT TO CONSTRUCT

- 8) That any deviations from approved plans or specifications affecting capacity, flow or operation of units must be approved by the Department before any such deviations are made in the construction of this project.
- 9) That the recipient of the permit is responsible for the continued operation and maintenance of these facilities in accordance with rules and regulations adopted by the Environmental Quality Board, and that this Department will be notified in writing of any sale or transfer of ownership of these facilities.
- 10) The issuance of this permit does not relieve the responsible parties of any obligations or liabilities which the permittee may be under pursuant to prior enforcement action taken by the Department.
- 11) That the permittee is required to inform the developer/builder that a DEQ Storm Water Construction Permit is required for a construction site that will disturb one (1) acre or more in accordance with OPDES, 27A O.S. Section 2-6-201 *et seq.* For information or a copy of the GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES, Notice of Intent (NOI) form, Notice of Termination (NOT) form, or guidance on preparation of a Pollution Prevention Plan, contact the Storm Water Unit of the Water Quality Division at P.O. Box 1677, Oklahoma City, OK 73101-1677 or by phone at (405) 702-8100.
- 12) That any notations or changes recorded on the official set of plans and specifications in the Oklahoma Department of Environmental Quality files shall be part of the plans as approved.
- 13) That water lines shall be located at least fifteen (15) feet from all parts of septic tanks and absorption fields, or other sewage treatment and disposal systems.
- 14) That whenever plastic pipe is approved and used for potable water, it shall bear the seal of the National Sanitation Foundation and meet the appropriate commercial standards.
- 15) That when it is impossible to obtain proper horizontal and vertical separation as stipulated in Public Water Supply Construction Standards OAC 252:626-19-2(h)(1) and OAC 252:626-19-2(h)(2), respectively, the sewer shall be designed and constructed equal to water pipe, and shall be pressure tested to the highest pressure obtainable under the most severe head conditions of the collection system prior to backfilling.

PERMIT No. WL000026240088

WATER LINES

FACILITY No. 1010821

PERMIT TO CONSTRUCT

Failure to appeal the conditions of this permit in writing within 30 days from the date of issue will constitute acceptance of the permit and all conditions and provisions.



for

Rocky Chen, P.E., Engineering Manager, Construction Permit Section-WSS
Water Quality Division

PIPELINE CROSSING AGREEMENT

Mile Post: 436.67, Duncan Subdivision
Location: Chickasha, Grady County, Oklahoma

THIS AGREEMENT ("Agreement") is made and entered into as of February 23, 2024, ("Effective Date") by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation, ("Licensor") and **CITY OF CHICKASHA DBA CMA**, a Oklahoma to be addressed at 117 N. 4th Street, Chickasha, Oklahoma 73018 ("Licensee").

IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

Article 1. LICENSOR GRANTS RIGHT.

A. In consideration of the license fee to be paid by Licensee set forth below and in further consideration of the covenants and agreements to be performed by Licensee, Licensor hereby grants to Licensee the right to construct and thereafter, during the term hereof, maintain and operate New Installation Of (1) One Underground Potable Water Dip Pipeline Encased In A Twenty-four (24) Inch Steel Pipe Casing Pipeline Crossing only, including any appurtenances required for the operation of said pipeline (collectively, "Licensee's Facilities") across Licensor's real property, trackage, or other facilities located in Chickasha, Grady County, State of Oklahoma ("Railroad Property"). The specific specifications and limited purpose for Licensee's Facilities on, along, across and under Railroad Property are described in and shown on the Print and Specifications dated January 23, 2024, attached hereto as **Exhibit A** and made a part hereof.

B. Licensee represents and warrants that Licensee's Facilities will (i) only be used for New Installation Of (1) One Underground Potable Water Dip Pipeline Encased In A Twenty-four (24) Inch Steel Pipe Casing Pipeline Crossing, and (ii) not be used to convey any other substance, any fiber optic cable, or for any other use, whether such use is currently technologically possible, or whether such use may come into existence during the life of this Agreement.

C. Licensee acknowledges that if it or its contractor provides Licensor with digital imagery depicting Licensee's Facilities ("Digital Imagery"), Licensee authorizes Licensor to use the Digital Imagery in preparing **Exhibit A**. Licensee represents and warrants that through a license or otherwise, it has the right to use the Digital Imagery and to permit Licensor to use the Digital Imagery in said manner.

Article 2. LICENSE FEE.

Upon execution of this Agreement, the Licensee shall pay to the Licensor a one-time License Fee of Twenty-Five Thousand Seven Hundred Ninety Dollars (**\$25,790.00**).

Article 3. TERM.

This Agreement shall take effect as of the Effective Date first herein written and shall continue in full force and effect until terminated as provided in the "TERMINATION; REMOVAL OF LICENSEE'S FACILITIES" Section of **Exhibit B**.

Article 4. LICENSEE'S COMPLIANCE WITH GENERAL TERMS.

Licensee represents and warrants that all work on Licensee's Facilities performed by Licensee or its contractors will strictly comply with all terms and conditions set forth herein, including the General Terms and Conditions, attached hereto as Exhibit B and made a part hereof.

Article 5. INSURANCE.

A. During the term of this Agreement, Licensee shall fully comply or cause its contractor(s) to fully comply with the insurance requirements described in **Exhibit C**, attached hereto and made a part hereof. Upon request only, Licensee shall send copies of all insurance documentation (e.g., certificates, endorsements, etc.) to Licenser at the address listed in the "NOTICES" Section of this Agreement.

B. If Licensee is subject to statute(s) limiting its insurance liability and/or limiting its ability to obtain insurance in compliance with **Exhibit C** of this Agreement, those statutes shall apply.

Article 6. DEFINITION OF LICENSEE.

For purposes of this Agreement, all references in this Agreement to Licensee will include Licensee's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority (collectively, a "Contractor"). If a Contractor is hired by Licensee to perform any work on Licensee's Facilities (including initial construction and subsequent relocation, maintenance, and/or repair work), then Licensee shall provide a copy of this Agreement to its Contractor(s) and require its Contractor(s) to comply with all terms and conditions of this Agreement, including the indemnification requirements set forth in the "INDEMNITY" Section of **Exhibit B**. Licensee shall require any Contractor to release, defend, and indemnify Licenser to the same extent and under the same terms and conditions as Licensee is required to release, defend, and indemnify Licenser herein.

Article 7. ATTORNEYS' FEES, EXPENSES, AND COSTS.

If litigation or other court action or similar adjudicatory proceeding is undertaken by Licensee or Licenser to enforce its rights under this Agreement, all fees, costs, and expenses, including, without limitation, reasonable attorneys' fees and court costs, of the prevailing Party in such action, suit, or proceeding shall be reimbursed or paid by the Party against whose interest the judgment or decision is rendered. The provisions of this Article shall survive the termination of this Agreement.

Article 8. WAIVER OF BREACH.

The waiver by Licenser of the breach of any condition, covenant or agreement herein contained to be kept, observed and performed by Licensee shall in no way impair the right of Licenser to avail itself of any remedy for any subsequent breach thereof.

Article 9. ASSIGNMENT.

A. Licensee shall not assign this Agreement, in whole or in part, or any rights herein granted, without the written consent of Licenser, which must be requested in writing by Licensee. Any assignment or attempted transfer of this Agreement or any of the rights herein granted, whether voluntary, by operation of law, or otherwise, without Licenser's written consent, will be absolutely void and may result in Licenser's termination of this Agreement pursuant to the "TERMINATION; REMOVAL OF LICENSEE'S FACILITIES" Section of **Exhibit B**.

B. Upon Licenser's written consent to any assignment, this Agreement will be binding upon and inure to the benefit of the parties thereto, successors, heirs, and assigns, executors, and administrators.

Article 10. SEVERABILITY.

Any provision of this Agreement which is determined by a court of competent jurisdiction to be invalid or unenforceable shall be invalid or unenforceable only to the extent of such determination, which shall not invalidate or otherwise render ineffective any other provision of this Agreement.

Article 11. NOTICES.

Except Licensee's commencement of work notice(s) required under **Exhibit B**, all other notices required by this Agreement must be in writing, and (i) personally served upon the business address listed below ("Notice Address"), (ii) sent overnight via express delivery by a nationally recognized overnight delivery service such as Federal Express Corporation or United Parcel Service to the Notice Address, or (iii) by certified mail, return receipt requested to the Notice Address. Overnight express delivery notices will be deemed to be given upon receipt. Certified mail notices will be deemed to be given three (3) days after deposit with the United States Postal Service.

If to Licensor: Union Pacific Railroad Company
Attn: Analyst – Real Estate Utilities (Project No. 0795064)
1400 Douglas Street, MS 1690
Omaha, Nebraska 68179

If to Licensee: CITY OF CHICKASHA DBA CMA
117 N. 4th Street
Chickasha, Oklahoma 73018

Article 12. SPECIAL PROVISION – CONSTRUCTION OBSERVATION.

Licensor requires Licensee to provide monitoring of tracks and construction observation through Licensor approved observer named below during all construction and installation work. Licensee is to directly coordinate services with the named inspector:

Railpros Field Services
Email: RP.Utility@railpros.com
Phone (682)223-5271

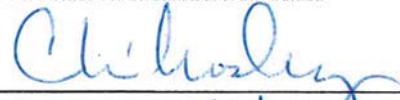
IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY

By: 
Digitally signed by Daniel A. Leis
Date: 2024.04.08 13:38:46 -05'00'

Dan Leis
Sr Director Real Estate - Contracts

CITY OF CHICKASHA DBA CMA

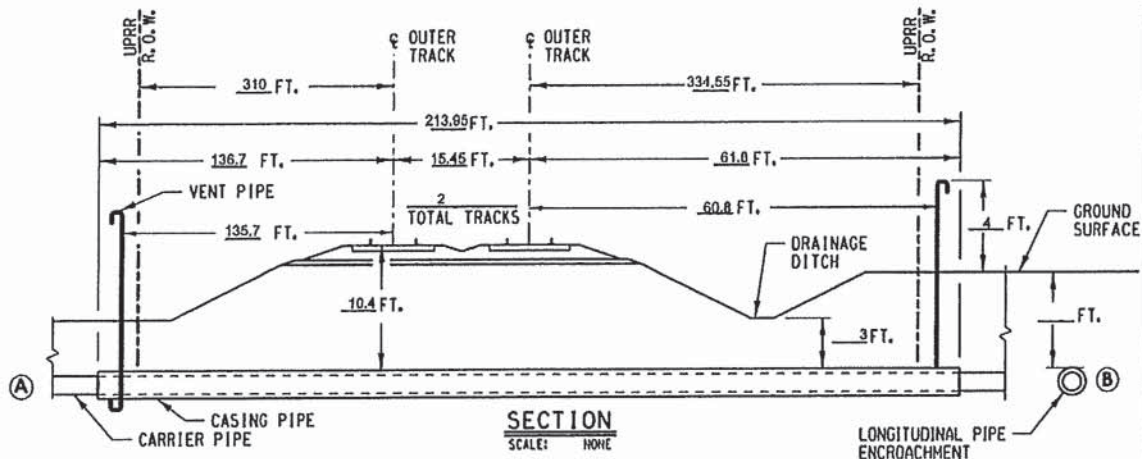
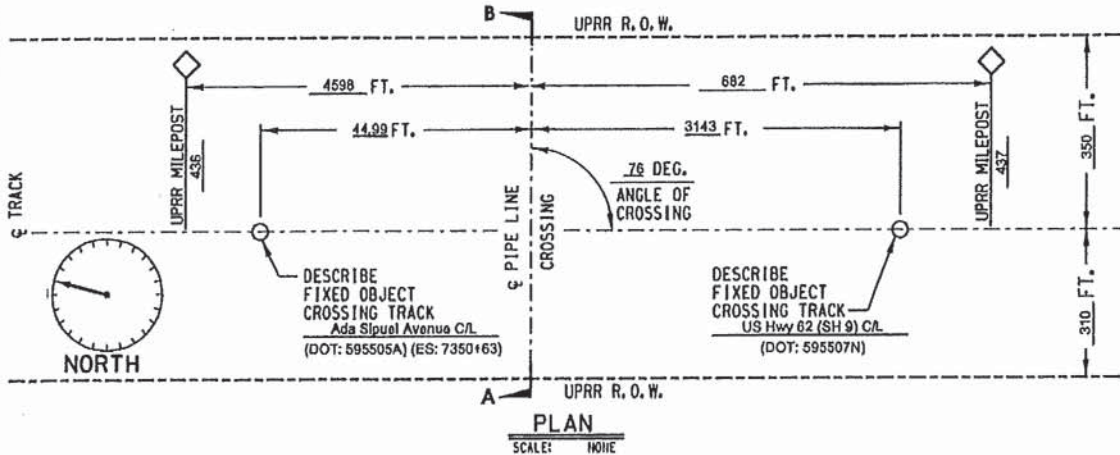
By: 

Name Printed: Chris Maskey

Title: Mayor

NON-FLAMMABLE LIQUID PIPELINE

☒ CROSSING
☐ ENCROACHMENT
☐ BOTH



NOTES:
1) ALL DIMENSIONS MEASURED PERPENDICULAR TO THE CENTERLINE OF TRACK
2) REFER TO AREMA VOLUME 1, CHAPTER 1, PART 5, SECTION 5.1

- A) METHOD OF INSTALLATION BORED AND JACKED
B) DIST. FROM CENTERLINE OF TRACK TO PIPE ENCROACHMENT _____
C) SIGNS PROVIDED? AT MINIMUM SIGNS WILL BE PROVIDED AS STATED ABOVE
D) CARRIER MATERIAL DIP, IF RCP, CLASS V? NA
COMMODITY TO BE CONVEYED POTABLE WATER,
OPERATIONAL PRESSURE 250 PSI, MAOP 250 PSI,
WALL THICKNESS (INCH)/ SCHEDULE 0.3, DIAMETER 16 IN.,
CATHODIC/COATING PROTECTION YES
E) CASING MATERIAL STEEL PIPE, IF RCP, CLASS V? NA
TOTAL LENGTH CASING PIPE: 220 FT.,
WALL THICKNESS 0.4375 IN, DIAMETER 24 IN.,
CATHODIC/COATING PROTECTION YES
CASING PIPE IS SEALED AT THE ENDS.
F) DISTANCE FROM CENTERLINE OF TRACK TO NEAR FACE OF
BORING AND JACKING PITS WHEN MEASURED AT RIGHT ANGLES
148.7 AND 63.5.



BUILDING AMERICA®

EXHIBIT "A"

SUBDIVISION: Duncan Sub.

TRACK TYPE: MAINLINE

M.P.: 436.07

LAT.: 35.043929

E.S.M.: 7351+08

LONG.: -97.929791

NEAREST CITY: CHICKASHA

COUNTY: GRADY

STATE: OK

APPLICANT: CITY OF CHICKASHA DBA CMA

FILE NO.: 0795064

DATE: 01/23/2024

EXHIBIT B

GENERAL TERMS AND CONDITIONS

Section 1. LIMITATION AND SUBORDINATION OF RIGHTS GRANTED.

A. The foregoing grant is subject and subordinate to the prior and continuing right and obligation of Licensor to use and maintain its entire property including the right and power of Licensor to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, signal, communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be freely done at any time or times by Licensor without liability to Licensee or to any other party for compensation or damages.

B. The foregoing grant is also subject to all outstanding superior rights (including those in favor of licensees and lessees of Railroad Property) and the right of Licensor to renew and extend the same, and is made without covenant of title or for quiet enjoyment. It shall be Licensee's sole obligation to obtain such additional permission, license and grants necessary on account of any such existing rights.

Section 2. ENGINEERING REQUIREMENTS; PERMITS.

A. Licensee's Facilities will be designed, constructed, operated, maintained, repaired, renewed, modified, reconstructed, removed, or abandoned in place on Railroad Property by Licensee or its contractor to Licensor's satisfaction and in strict conformity with: (i) Licensor's current engineering standards and specifications, including those for shoring and cribbing to protect Licensor's railroad operations and facilities ("UP Specifications"), except for variances approved in advance in writing by Licensor's Assistant Vice President Engineering – Design or its authorized representative ("UP Engineering Representative"); (ii) such other additional safety standards as Licensor, in its sole discretion, elects to require, including, without limitation, American Railway Engineering and Maintenance-of-Way Association ("AREMA") standards and guidelines (collectively, "UP Additional Requirements"); and (iii) all applicable laws, rules, and regulations, including any applicable Federal Railroad Administration and Federal Energy Regulatory Commission regulations and enactments (collectively, "Laws"). If there is any conflict between UP Specifications, UP Additional Requirements, and Laws, the most restrictive will apply.

B. Licensee shall keep the soil over Licensee's Facilities thoroughly compacted, and maintain the grade over and around Licensee's Facilities even with the surface of the adjacent ground.

C. If needed, Licensee shall secure, at Licensee's sole cost and expense, any and all necessary permits required to perform any work on Licensee's Facilities.

Section 3. NOTICE OF COMMENCEMENT OF WORK; EMERGENCIES.

A. Licensee and its contractors are strictly prohibited from commencing any work associated with Licensee's Facilities without Licensor's written approval that the work will be in strict compliance with the "ENGINEERING REQUIREMENTS; PERMITS" Section of this Exhibit B. Upon Licensor's approval, Licensee shall contact both of Licensor's field representatives ("Licensor's Field Representatives") at least ten (10) days before commencement of any work on Licensee's Facilities.

B. Licensee shall not commence any work until: (1) Licensor has determined whether flagging or other special protective or safety measures ("Safety Measures") are required for performance of the work pursuant to the "FLAGGING" Section of this Exhibit B and provided Licensee written

authorization to commence work; and (2) Licensee has complied with the "PROTECTION OF FIBER OPTIC CABLE SYSTEMS" Section of this **Exhibit B**.

C. If, at any time, an emergency arises involving Licensee's Facilities, Licensee or its contractor shall immediately contact Licensor's Response Management Communications Center at (888) 877-7267.

Section 4. FLAGGING.

A. Following Licensee's notice to Licensor's Field Representatives required under the "NOTICE OF COMMENCEMENT OF WORK; EMERGENCIES" Section of this **Exhibit B**, Licensor shall inform Licensee if Safety Measures are required for performance of the work by Licensee or its contractor on Railroad Property. If Safety Measures are required, no work of any kind may be performed by Licensee or its contractor(s) until arrangements for the Safety Measures have been made and scheduled. If no Safety Measures are required, Licensor will give Licensee written authorization to commence work.

B. If any Safety Measures are performed or provided by Licensor, including but not limited to flagging, Licensor shall bill Licensee for such expenses incurred by Licensor, unless Licensor and a federal, state, or local governmental entity have agreed that Licensor is to bill such expenses to the federal, state, or local governmental entity. Additional information regarding the submission of such expenses by Licensor and payment thereof by Licensee can be found in the "LICENSEE'S PAYMENT OF EXPENSES" Section of this **Exhibit B**. If Licensor performs any Safety Measures, Licensee agrees that Licensee is not relieved of any of responsibilities or liabilities set forth in this Agreement.

C. For flagging, the rate of pay per hour for each flagger will be the prevailing hourly rate in effect for an eight-hour day for the class of flagmen used during regularly assigned hours and overtime in accordance with Labor Agreements and Schedules in effect at the time the work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health and welfare, supplemental sickness, Railroad Retirement and unemployment compensation, supplemental pension, Employees Liability and Property Damage, and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the work is performed. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays, and two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between Licensor and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, Licensee (or the governmental entity, as applicable) shall pay on the basis of the new rates and charges.

D. Reimbursement to Licensor will be required covering the full eight-hour day during which any flagger is furnished, unless the flagger can be assigned to other railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagger is engaged in other railroad work. Reimbursement will also be required for any day not actually worked by the flaggers following the flaggers' assignment to work on the project for which Licensor is required to pay the flaggers and which could not reasonably be avoided by Licensor by assignment of such flaggers to other work, even though Licensee may not be working during such time. When it becomes necessary for Licensor to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, Licensee must provide Licensor a minimum of five (5) days notice prior to the cessation of the need for a flagger. If five (5) days notice of cessation is not given, Licensee will still be required to pay flagging charges for the days the flagger was scheduled, even though flagging is no longer required for that period. An additional ten (10) days notice must then be given to Licensor if flagging services are needed again after such five day cessation notice has been given to Licensor.

Section 5. SAFETY.

A. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of any work on Railroad Property performed by Licensee or its contractor, and takes precedence over any work on Licensee's Facilities to be performed Licensee or its contractors. Licensee shall be responsible for initiating, maintaining and supervising all safety operations and programs in connection with any work on Licensee's Facilities. Licensee and its contractor shall, at a minimum comply, with Licensor's then current safety standards located at the below web address ("Licensor's Safety Standards") to ensure uniformity with the safety standards followed by Licensor's own forces. As a part of Licensee's safety responsibilities, Licensee shall notify Licensor if it determines that any of Licensor's Safety Standards are contrary to good safety practices. Licensee and its contractor shall furnish copies of Licensor's Safety Standards to each of its employees before they enter Railroad Property.

Union Pacific Current Safety Requirements

B. Licensee shall keep the job site on Railroad Property free from safety and health hazards and ensure that their employees are competent and adequately trained in all safety and health aspects of the work.

C. Licensee represents and warrants that all parts of Licensee's Facilities within and outside of the limits of Railroad Property will not interfere whatsoever with the constant, continuous, and uninterrupted use of the tracks, property, and facilities of Licensor, and nothing shall be done or suffered to be done by Licensee at any time that would in any manner impair the safety thereof.

D. Licensor's operations and work performed by Licensor's personnel may cause delays in Licensee's or its contractor's work on Licensee's Facilities. Licensee accepts this risk and agrees that Licensor shall have no liability to Licensee or any other person or entity for any such delays. Licensee must coordinate any work on Railroad Property by Licensee or any third party with Licensor's Field Representatives in strict compliance with the "NOTICE OF COMMENCEMENT OF WORK; EMERGENCIES" Section of this **Exhibit B**.

E. Licensor shall have the right, if it so elects, to provide any support it deems necessary for the safety of Licensor's operations and trackage during Licensee's or its contractor's construction, maintenance, repair, renewal, modification, relocation, reconstruction, or removal of Licensee's Facilities. In the event Licensor provides such support, Licensor shall invoice Licensee, and Licensee shall pay Licensor as set forth in the "LICENSEE'S PAYMENT OF EXPENSES" Section of this **Exhibit B**.

F. Licensee may use unmanned aircraft systems ("UAS") to inspect Licensee's Facilities only upon the prior authorization from and under the direction of Licensor's Field Representatives. Licensee represents and warrants that its use of UAS on Railroad Property will comply with Licensor's then-current Unmanned Aerial Systems Policy and all applicable laws, rules and regulations, including any applicable Federal Aviation Administration regulations and enactments pertaining to UAS.

Section 6. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

Fiber optic cable systems may be buried on Railroad Property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. In addition to the notifications required under the "NOTICE OF COMMENCEMENT OF WORK; EMERGENCIES" Section of this **Exhibit B**, Licensee shall visit up.com/CBUD to complete and submit the required form to determine if fiber optic cable is buried anywhere on Railroad Property to be used by Licensee. If it is, Licensee shall telephone the telecommunications company(ies) involved, and arrange for a cable locator, make arrangements for relocation or other protection of the fiber optic cable, all at Licensee's expense, and will not commence any work on Railroad Property until all such protection or relocation has been completed.

Section 7. LICENSEE'S PAYMENT OF EXPENSES.

A. Licensee shall bear the entire cost and expense of the design, construction, maintenance, modification, reconstruction, repair, renewal, revision, relocation, or removal of Licensee's Facilities.

B. Licensee shall fully pay for all materials joined, affixed to and labor performed on Railroad Property in connection with the construction, maintenance, modification, reconstruction, repair, renewal, revision, relocation, or removal of Licensee's Facilities, and shall not permit or suffer any mechanic's or materialman's lien of any kind or nature to be enforced against the property for any work done or materials furnished thereon at the instance or request or on behalf of Licensee. Licensee shall promptly pay or discharge all taxes, charges, and assessments levied upon, in respect to, or on account of Licensee's Facilities, to prevent the same from becoming a charge or lien upon any property of Licensor, and so that the taxes, charges, and assessments levied upon or in respect to such property shall not be increased because of the location, construction, or maintenance of Licensee's Facilities or any improvement, appliance, or fixture connected therewith placed upon such property, or on account of Licensee's interest therein. Where such tax, charge, or assessment may not be separately made or assessed to Licensee but shall be included in the assessment of the property of Licensor, then Licensee shall pay to Licensor an equitable proportion of such taxes determined by the value of Licensee's property upon property of Licensor as compared with the entire value of such property.

C. As set forth in the "FLAGGING" Section of this Exhibit B, Licensor shall have the right, if it so elects, to provide any Safety Measures Licensor deems necessary for the safety of Licensor's operations and trackage during Licensee's or its contractor's construction, maintenance, modification, reconstruction, repair, renewal, revision, relocation, or removal of Licensee's Facilities, including, but not limited to supervision, inspection, and flagging services. In the event Licensor provides such Safety Measures, Licensor shall submit an itemized invoice to Licensee's notice recipient listed in the "NOTICES" Article of this Agreement. Licensee shall pay to Licensor the total amount listed on such invoice within thirty (30) days of Licensee's receipt of such invoice.

Section 8. MODIFICATIONS TO LICENSEE'S FACILITIES.

A. This grant is subject to Licensor's safe and efficient operation of its railroad, and continued use and improvement of Railroad Property (collectively, "Railroad's Use"). Accordingly, Licensee shall, at its sole cost and expense, modify, reconstruct, repair, renew, revise, relocate, or remove (individually, "Modification", or collectively, "Modifications") all or any portion of Licensee's Facilities as Licensor may designate or identify, in its sole discretion, in the furtherance of Railroad's Use.

B. Upon any Modification of all or any portion of Licensee's Facilities to another location on Railroad Property, Licensor and Licensee shall execute a Supplemental Agreement to this Pipeline Agreement to document the Modification(s) to Licensee's Facilities on Railroad Property. If the Modifications result in Licensee's Facilities moving off of Railroad Property, this Agreement will terminate upon Licensee's completion of such Modification(s) and all requirements contained within the "TERMINATION; REMOVAL OF LICENSEE'S FACILITIES" Section of this Exhibit B. Any such Modification(s) off of Railroad Property will not release Licensee from any liability or other obligation of Licensee arising prior to and upon completion of any such Modifications to the Licensee's Facilities.

Section 9. RESTORATION OF RAILROAD PROPERTY.

In the event Licensee, in any manner moves or disturbs any property of Licensor in connection with the construction, maintenance, modification, reconstruction, repair, renewal, revision, relocation, or removal of Licensee's Facilities, then, Licensee shall, as soon as possible and at Licensee's sole cost

and expense, restore Licensor's property to the same condition as the same were before such property was moved or disturbed.

Section 10. INDEMNITY.

A. Definitions. As used in this Section:

1. "Licensor" includes Licensor, its affiliates, its and their officers, directors, agents and employees, and other railroad companies using Railroad Property at or near the location of Licensee's installation and their officers, directors, agents, and employees.
2. "Licensee" includes Licensee and its agents, contractors, subcontractors, sub-subcontractors, employees, officers, and directors, or any other person or entity acting on its behalf or under its control.
3. "Loss" includes claims, suits, taxes, loss, damages (including punitive damages, statutory damages, and exemplary damages), costs, charges, assessments, judgments, settlements, liens, demands, actions, causes of action, fines, penalties, interest, and expenses of any nature, including court costs, reasonable attorneys' fees and expenses, investigation costs, and appeal expenses.

B. Licensee shall release, defend, indemnify, and hold harmless Licensor from and against any and all Loss, even if groundless, fraudulent, or false, that directly or indirectly arises out of or is related to Licensee's construction, maintenance, modification, reconstruction, repair, renewal, revision, relocation, removal, presence, use, or operation of Licensee's Facilities, including, but not limited to, any actual or alleged:

1. Bodily harm or personal injury (including any emotional injury or disease) to, or the death of, any person(s), including, but not limited to, Licensee, Licensor, any telecommunications company, or the agents, contractors, subcontractors, sub-subcontractors, or employees of the foregoing;
2. Damage to or the disturbance, loss, movement, or destruction of Railroad Property, including loss of use and diminution in value, including, but not limited to, any telecommunications system(s) or fiber optic cable(s) on or near Railroad Property, any property of Licensee or Licensor, or any property in the care, custody, or control of Licensee or Licensor;
3. Removal of person(s) from Railroad Property;
4. Any delays or interference with track or Railroad's Use caused by Licensee's activity(ies) on Railroad Property, including without limitation the construction, maintenance, modification, reconstruction, repair, renewal, revision, relocation, or removal of Licensee's Facilities or any part thereof, any activities, labor, materials, equipment, or machinery in conjunction therewith;
5. Right(s) or interest(s) granted pursuant to this Agreement;
6. Contents escaping from Licensee's Facilities, including without limitation any actual or alleged pollution, contamination, breach, or environmental Loss;

7. Licensee's breach of this Agreement or failure to comply with its provisions, including, but not limited to, any violation or breach by Licensee of any representations and warranties Licensee has made in this Agreement; and
8. Violation by Licensee of any law, statute, ordinance, governmental administrative order, rule, or regulation, including without limitation all applicable Federal Railroad Administration regulations.

C. THE FOREGOING OBLIGATIONS SHALL APPLY TO THE FULLEST EXTENT PERMITTED BY LAW FOR THE BENEFIT OF LICENSOR TO LOSSES CAUSED BY, ARISING FROM, RELATING TO, OR RESULTING FROM, IN WHOLE OR IN PART, THE NEGLIGENCE OF LICENSOR, AND SUCH NEGLIGENCE OF LICENSOR SHALL NOT LIMIT, DIMINISH, OR PRECLUDE LICENSEE'S OBLIGATIONS TO LICENSOR IN ANY RESPECT. NOTWITHSTANDING THE FOREGOING, SUCH OBLIGATION TO INDEMNIFY LICENSOR SHALL NOT APPLY TO THE EXTENT THE LOSS IS CAUSED BY THE SOLE, ACTIVE AND DIRECT NEGLIGENCE, GROSS NEGLIGENCE, OR WILLFUL MISCONDUCT OF LICENSOR AS DETERMINED IN A FINAL JUDGMENT BY A COURT OF COMPETENT JURISDICTION.

Section 11. TERMINATION; REMOVAL OF LICENSEE'S FACILITIES.

A. If Licensee does not use the right herein granted on Licensee's Facilities for one (1) year, or if Licensee continues in default in the performance of any provision of this Agreement for a period of thirty (30) days after written notice from Licensor to Licensee specifying such default, Licensor may, at its sole discretion, terminate this Agreement by written notice to Licensee at the address listed in the "NOTICES" Article of this Agreement. This Agreement will not terminate until Licensee complies with Paragraphs "C" and "D" of this Section found below.

B. In addition to the provisions of Paragraph "A" above, this Agreement may be terminated by written notice given by either party, without cause, upon thirty (30) days written notice to the non-terminating party at the address listed in the "NOTICES" Article of this Agreement. This Agreement will not terminate until Licensee complies with Paragraphs "C" and "D" of this Section found below.

C. Prior to the effective date of any termination described in this Section, Licensee shall submit an application to Licensor's online Utility Contracts System at [this link](#) for Licensee's removal, or if applicable, abandonment in place of Licensee's Facilities located on Railroad Property ("Removal/Abandonment Work"). Upon the UP Engineering Representative's approval of Licensee's application for the Removal/Abandonment Work, Licensor and Licensee shall execute a separate consent document that will govern Licensee's performance of the Removal/Abandonment Work from those portions of Railroad Property not occupied by roadbed and/or trackage ("Consent Document"). Licensee shall then restore the impacted Railroad Property to the same or reasonably similar condition as it was prior to Licensee's installation of Licensee's Facilities. For purposes of this Section, Licensee's (i) performance of the Removal/Abandonment Work, and (ii) restoration work will hereinafter be collectively referred to as the "Restoration Work".

D. Following Licensee's completion of the Restoration Work, Licensee shall provide a written certification letter to Licensor at the address listed in the "NOTICES" Article of this Agreement which certifies that the Restoration Work has been completed in accordance with the Consent Document. Licensee shall report to governmental authorities, as required by law, and notify Licensor immediately if any environmental contamination is discovered during Licensee's performance of the Restoration Work. Upon discovery, the Licensee shall initiate any and all removal, remedial and restoration actions that are necessary to restore the property to its original, uncontaminated condition. Licensee shall provide written certification to Licensor at the address listed in the "NOTICES" Article of this Agreement that environmental contamination has been remediated and the property has been

restored in accordance with Licensor's requirements. Upon Licensor's receipt of Licensee's restoration completion certifications, this Agreement will terminate.

E. In the event that Licensee fails to complete any of the Restoration Work, Licensor may, but is not obligated, to perform the Restoration Work. Any such work actually performed by Licensor will be at the cost and expense of Licensee. In the event that Licensor performs any of the Restoration Work, Licensee shall release Licensor from any and all Loss (defined in the "INDEMNITY" Section of this Exhibit B) arising out of or related to Licensor's performance of the Restoration Work.

F. Termination of this Agreement for any reason will not affect any of rights or obligations of the parties which may have accrued, or liabilities or Loss (defined in the "INDEMNITY" Section of this Exhibit B), accrued or otherwise, which may have arisen prior to such termination.

EXHIBIT C

INSURANCE REQUIREMENTS

In accordance with Article 5 of this Agreement, Licensee shall (1) procure and maintain at its sole cost and expense, or (2) require its Contractor(s) to procure and maintain, at their sole cost and expense, the following insurance coverage:

A. **Commercial General Liability Insurance.** Commercial general liability (CGL) with a limit of not less than \$2,000,000 each occurrence and an aggregate limit of not less than \$4,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, WHICH MUST BE STATED ON THE CERTIFICATE OF INSURANCE:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

B. **Business Automobile Coverage Insurance.** Business auto coverage written on ISO form CA 00 01 10 01 (or a substitute form providing equivalent liability coverage) with a limit of not less \$2,000,000 for each accident, and coverage must include liability arising out of any auto (including owned, hired, and non-owned autos).

The policy must contain the following endorsements, WHICH MUST BE STATED ON THE CERTIFICATE OF INSURANCE:

- "Coverage For Certain Operations In Connection With Railroads" ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

C. **Workers' Compensation and Employers' Liability Insurance.** Coverage must include but not be limited to:

- Licensee's statutory liability under the workers' compensation laws of the state(s) affected by this Agreement.
- Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

If Licensee is self-insured, evidence of state approval and excess workers' compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

D. **Environmental Liability Insurance.** Environmental Legal Liability Insurance (ELL) applicable to bodily injury, property damage, including loss of use of damaged property or of property that has not been physically injured or destroyed, cleanup costs, and defense, including costs and expenses incurred in the investigation, defense, or settlement of claims, or compliance with statute, all in connection with any loss arising from the insured's performance under this Agreement. Except with respect to the limits of insurance, and any rights or duties specifically assigned to the first named insured, this insurance must apply as if each named insured were the only named insured; and separately to the additional insured against which claim is made or suit is brought. Coverage shall be maintained in an amount of at least \$2,000,000 per loss, with an annual aggregate of at least \$4,000,000.

Licensee warrants that any retroactive date applicable to ELL insurance coverage under the policy is the same as or precedes the Effective Date of this Agreement, and that continuous coverage

will be maintained for a period of five (5) years beginning from the time the work under this Agreement is completed or if coverage is cancelled for any reason the policies extended discovery period, if any, will be exercised for the maximum time allowed.

E. **Railroad Protective Liability Insurance.** Licensee must maintain for the duration of work "Railroad Protective Liability" insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Licensor only as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate of \$6,000,000. The definition of "JOB LOCATION" and "WORK" on the declaration page of the policy shall refer to this Agreement and shall describe all WORK or OPERATIONS performed under this Agreement. Notwithstanding the foregoing, Licensee does not need Railroad Protective Liability Insurance after its initial construction work is complete and all excess materials have been removed from Licensor's property; PROVIDED, however, that Licensee shall procure such coverage for any subsequent maintenance, repair, renewal, modification, reconstruction, or removal work on Licensee's Facilities.

F. **Umbrella or Excess Insurance.** If Licensee utilizes umbrella or excess policies, and these policies must "follow form" and afford no less coverage than the primary policy.

Other Requirements

G. All policy(ies) required above (except business automobile, workers' compensation and employers' liability) must include Licensor as "Additional Insured" using ISO Additional Insured Endorsement CG 20 26 (or substitute form(s) providing equivalent coverage). The coverage provided to Licensor as additional insured shall not be limited by Licensee's liability under the indemnity provisions of this Agreement. BOTH LICENSOR AND LICENSEE EXPECT THAT LICENSOR WILL BE PROVIDED WITH THE BROADEST POSSIBLE COVERAGE AVAILABLE BY OPERATION OF LAW UNDER ISO ADDITIONAL INSURED FORM CG 20 26.

H. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless (a) insurance coverage may not lawfully be obtained for any punitive damages that may arise under this Agreement, or (b) all punitive damages are prohibited by all states in which this Agreement will be performed.

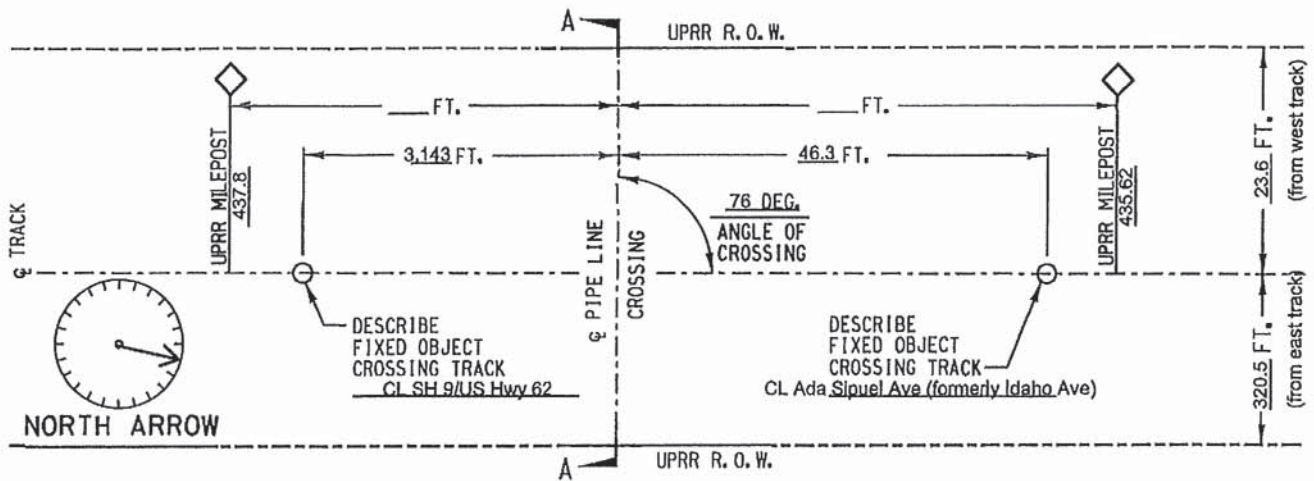
I. Licensee waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Licensor and its agents, officers, directors and employees for damages covered by the workers' compensation and employers' liability or commercial umbrella or excess liability obtained by Licensee required in this Agreement, where permitted by law. This waiver must be stated on the certificate of insurance.

J. All insurance policies must be written by a reputable insurance company acceptable to Licensor or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the work is to be performed.

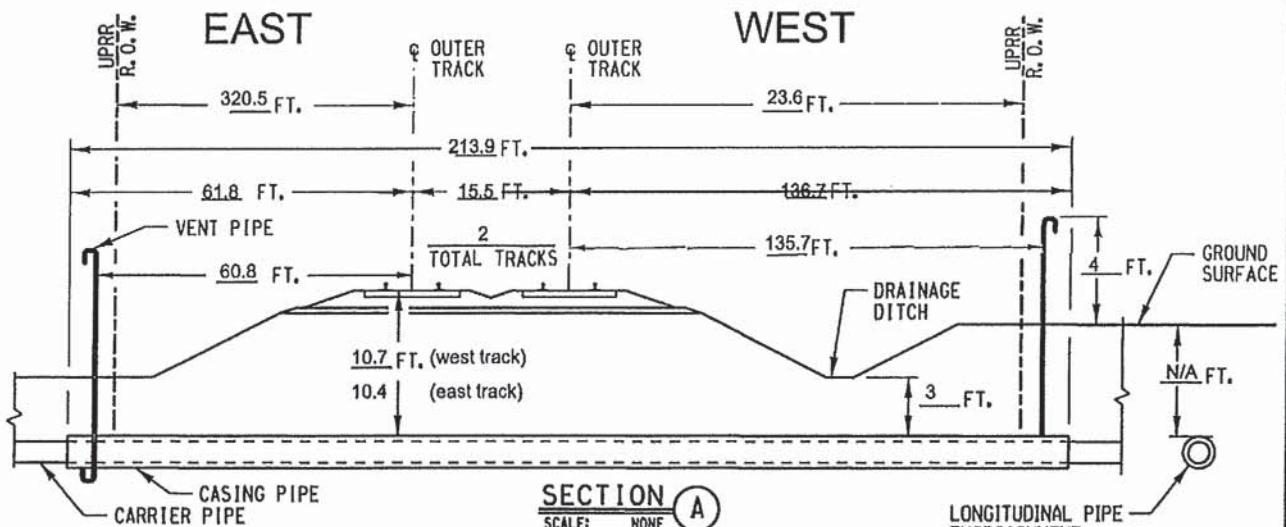
K. The fact that insurance is obtained by Licensee will not be deemed to release or diminish the liability of Licensee, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Licensor from Licensee or any third party will not be limited by the amount of the required insurance coverage.

NON-FLAMMABLE LIQUID PIPELINE

☒ CROSSING
☐ ENCROACHMENT
☐ BOTH



PLAN
SCALE: NONE



SECTION A
SCALE: NONE

NOTES:

- 1) ALL DIMENSIONS MEASURED PERPENDICULAR TO THE CENTERLINE OF TRACK.
- 2) REFER TO AREMA VOLUME 1, CHAPTER 1, PART 5, SECTION 5.3.

- A) METHOD OF INSTALLATION DRY BORE
- B) DIST. FROM CENTERLINE OF TRACK TO PIPE ENCROACHMENT N/A
- C) SIGNS PROVIDED? YES
- D) CARRIER MATERIAL DUCTILE IRON. IF RCP, CLASS V? N/A.
COMMODITY TO BE CONVEYED POTABLE WATER.
OPERATIONAL PRESSURE 75 PSI. MAOP 110 PSI.
WALL THICKNESS (INCH)/ SCHEDULE 0.30 IN. DIAMETER 17.4 IN.
CATHODIC/COATING PROTECTION BITUMINOUS COATED
- E) CASING MATERIAL STEEL. IF RCP, CLASS V? N/A.
TOTAL LENGTH CASING PIPE: 220 FT.
WALL THICKNESS 7/16 IN. DIAMETER 24 IN.
CATHODIC/COATING PROTECTION NONE
CASING PIPE IS SEALED AT THE ENDS.
- F) DISTANCE FROM CENTERLINE OF TRACK TO NEAR FACE OF
BORING AND JACKING PITS WHEN MEASURED AT RIGHT ANGLES
61.6 FT. AND 136.7 FT.



BUILDING AMERICA®

EXHIBIT "A"

SUBDIVISION: DUNCAN

TRACK TYPE: MAINLINE

M.P.: 436.87 LAT.: 35.043929

E.S.M.: LONG.: -97.929791

NEAREST CITY: CHICKASHA COUNTY: GRADY STATE: OKLAHOMA

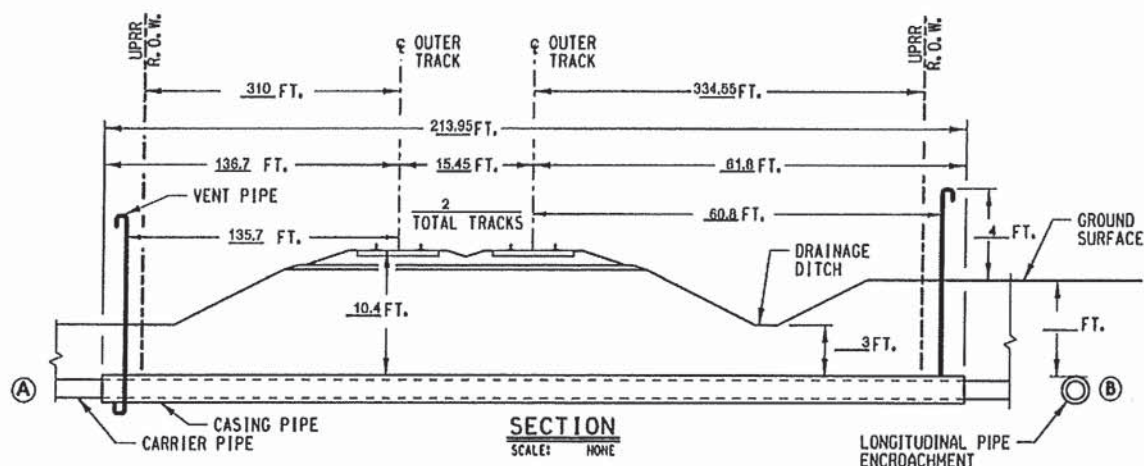
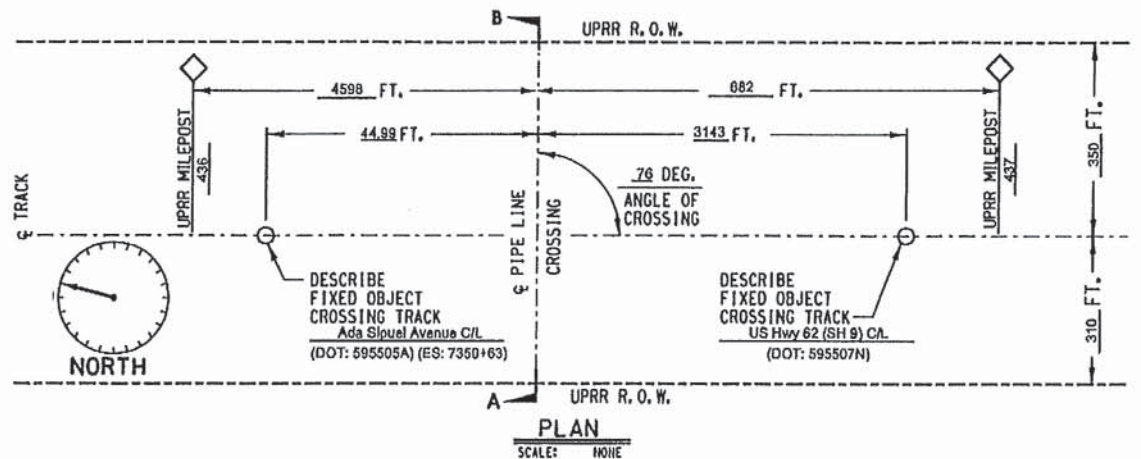
APPLICANT: CITY OF CHICKASHA/CMA

FILE NO.: 0795065

DATE: 3 / 1 / 2024

NON-FLAMMABLE LIQUID PIPELINE

☒ CROSSING
☐ ENCROACHMENT
☐ BOTH



NOTES:
1) ALL DIMENSIONS MEASURED PERPENDICULAR TO THE CENTERLINE OF TRACK
2) REFER TO AREMA VOLUME 1, CHAPTER 1, PART 5, SECTION 5.1

- A) METHOD OF INSTALLATION BORED AND JACKED
B) DIST. FROM CENTERLINE OF TRACK TO PIPE ENCROACHMENT
C) SIGNS PROVIDED? AT MINIMUM SIGNS WILL BE PROVIDED AS STATED ABOVE
D) CARRIER MATERIAL DIP. IF RCP, CLASS V? NA.
COMMODITY TO BE CONVEYED POTABLE WATER.
OPERATIONAL PRESSURE 250 PSI. MAOP 250 PSI.
WALL THICKNESS (INCH)/ SCHEDULE 0.3. DIAMETER 16 IN.
CATHODIC/COATING PROTECTION YES
E) CASING MATERIAL STEEL PIPE. IF RCP, CLASS V? NA.
TOTAL LENGTH CASING PIPE: 220 FT.
WALL THICKNESS 0.4375 IN. DIAMETER 24 IN.
CATHODIC/COATING PROTECTION YES
CASING PIPE IS SEALED AT THE ENDS.
F) DISTANCE FROM CENTERLINE OF TRACK TO NEAR FACE OF
BORING AND JACKING PITS WHEN MEASURED AT RIGHT ANGLES
148.7 AND 83.5.



BUILDING AMERICA®

EXHIBIT "A"

SUBDIVISION: Duncan Sub.

TRACK TYPE: MAINLINE

M.P.: 436.87

LAT.: 35.043929

E.S.M.: 7351+08

LONG.: -97.929791

NEAREST CITY: CHICKASHA

COUNTY: GRADY

STATE: OK

APPLICANT: CITY OF CHICKASHA DBA CMA

FILE NO.: 0795084

DATE: 01/23/2024

Application Id: 2049243

Project Number: 0795064

Exact name of corporation CITY OF CHICKASHA DBA CMA
to be shown on document :

State of Incorporation : OK

Address of Licensee

Contact Name : Jim Crosby

Contact Phone : 405-222-6086

Address 1: 117 N. 4th Street

Address 2:

City : Chickasha

State, Zip : OK,73018

Address to whom the agreement is to be mailed

Name : David Buchanan

Address 1 : 117 N. 4th Street

Address 2 :

City : Chickasha

State, Zip : OK,73018

Billing Address

Address 1: 117 N. 4th Street

Address 2:

City : Chickasha

State, Zip : OK,73018

Contact Information

Contact during the permitting process

Name : CITYOFCHICKASHADBACMA

Phone : 405-222-6086

Fax : 405-222-6084

Email : JIM.CROSBY@CHICKASHA.ORG

Contact after Construction

Name : CITYOFCHICKASHADBACMA

Phone : 405-222-6086

Fax : 405-222-6084

Email : JIM.CROSBY@CHICKASHA.ORG

Location Information

Latitude, Longitude: 35.043929, -97.929791

Nearest City CHICKASHA
/Station:

State: OK

Do you have eminent No
domain authority?

Permanent or Temporary Permanent
Installation?

If Temporary, then From: To:
Estimated Term Date :

Type of Installation: NEW - Underground Pipeline

Do you have an existing No
agreement at this location?

Additional Information:

Waivers:

Provide exhaustive explanation for your requested variance.

250 psi Rated Working Pressure Ductile Iron Pipe meeting AWWA Standard C151 Standards

Carrier: Provide an explanation for not providing cathodic protection or protective coating.

Asphaltic coating in accordance with AWWA C151 Standard.

Payment Information

Application Fee (Crossing):	\$755.00
Total:	\$755.00
Payment Mode:	Check

Customer Project Information Sheet

Project Information	
Please fill in each cell for processing	
UPRR Agreement Folder Number(s) (example 1234-56):	
Section One:	
Estimated Start Date for Construction On, Under, or Above UPRR ROW:	
Union Pacific's Third Party Flagging Policy:	www.up.com/real_estate/third-party-flagging/index.htm
Estimated Duration (in days) for Flagger (CIC):	
Estimated Duration (in days) for RailPros Observer:	
Estimated Work Schedule (example Mon. – Sat.):	
Daily Start Time / End Time (example 0700 to 1700 etc.):	
Section Two:	
Field Contact Person(s):	
Mobile Phone Number(s):	
Email Address(s):	
Project's Location (City / State):	
Railroad Subdivision:	
Railroad Mile Post(s) (MP):	
Section Three:	
Project Description (example HDD, Jack and Bore, Encroachment, Underground or Overhead Pipeline / Wireline crossing, etc.):	
What type of equipment will be used?	
How close will the equipment be to the tracks (in feet)?	
If instructed by the Railroad, please have all the on-site personnel complete the Railroad Safety Training listed below:	
"Safety is Union Pacific's #1 priority and extends to all who come on Union Pacific properties." Union Pacific Property Access Training (UP-PAT) can be found here: UP: UP Property Access Training	

By checking this box, I acknowledge that if any ground will be disturbed or excavated upon UPRR property, that I will comply with UPRR Specifications and contact the local UPRR representatives (MTM and/or MSM), in accordance with my UPRR Agreement.

☐ I acknowledge

Additional Comments:

--

Customer Billing Information Sheet

Company Information:	
Please fill in each cell for processing	
Company Name:	
Contact Name:	
Street Address:	
City / State / Zip Code:	
Phone Number:	
Contact Name Email Address:	
Billing Information (if different than above):	
Company Name:	
Contact Name:	
Street Address:	
City / State / Zip Code:	
Phone Number:	
Contact Name Email Address:	
2 nd Contact Name (Required):	
2 nd Contract Name Email Address (Required):	
Do you need a W-9?	Please make a selection
How would you like to receive the RailPros Invoice(s)?	Please make a selection
If other, please explain:	
Internal PO # to be listed on RailPros Invoices:	
Prevailing Wage (PW) Information:	
In government contracting, a prevailing wage is defined as the hourly wage, usual benefits, and overtime, paid to most workers, laborers, and mechanics within a particular area.	
Will the Flagger (RWIC, CIC, EIC) fall under a Prevailing Wage (PW) requirement for the Project:	Please make a selection
Notice:	
If you determine your project will fall under a Prevailing Wage requirement, you will be directed to our payroll department to make sure all requirements are met before moving forward with your project. Until this step has been completed, our team will not be able to supply a quote for our services.	

Observation Rates:

The daily rates for Observation services to be provided under this Agreement are based on eight (8) hours per day and will be as follows:

- **Mobilization/Administrative Fee**.....\$1,000 per Observer Required (each project will incur a fee for travel and administrative costs per Observer). 24 Hour continuous work requires two Observers. Project must be cancelled 4 business days prior to the scheduled start date to avoid additional mobilization fee. Multiple mobilization fees or additional labor fees will be charged if the project cannot be constructed in consecutive days (Monday through Saturday at a minimum) or if there is a delay during installation.
- **Construction Observation Fees**.....\$1,400/Standard 8-hour day. Overtime rate after 8 hours is \$200 per hour (all scheduling requests require a minimum 10-business days' notification).
- **Surcharge Fee**.....Activity in certain regions of the U.S. has created high demand for hotel rooms and increased related travel costs. The Project falls within such a region, therefore a surcharge of **\$200.00 per day** will be added to the invoice.

Flagging Rates:

The rates for Flagging services are as follows:

Standard WorkDay:	
Standard 8 hour day	\$1,018.00
Overtime rate per hour after 8 hours	\$135.00
Nights, Weekends, and Holidays:	
Standard 8 hour day	\$1,285.00
Overtime rate per hour after 8 hours	\$154.00

In the event of cancellation, if RailPros Management is given less than 24 hours' notice, it is considered a billable day. Cancellations must be made in writing to UP.Info@RailPros.com.

This quote is based on RailPros standard labor rates and does not take into any account prevailing wage requirements. If prevailing wages are applicable for this project, RailPros will re-quote based on the prevailing wage requirements.

Invoices are submitted upon completion of the job or at month's end. On-going jobs are billed on a monthly basis. Payments of invoices are due upon receipt. Invoices are subject to a 1.5% fee for every 30 days the payment is delinquent. RailPros accepts payment for services via Visa, MasterCard, Discover and American Express without additional fees. We encourage you to use this free and convenient service with no processing fees. Please refer to the second page of this document for credit card payments. Please contact RailPros at 877-315-0513 X116 or UP.Info@railpros.com for more information.

This quote is valid for 30 days and is subject to the attached Services Agreement (SA).

You may indicate your acceptance of this quote and the SA by signing and returning both documents via email.

****Regional Surcharge for additional travel and Per Diem costs (effective February 10, 2018):**

Activity in the Permian Basin and nearby area has created a high demand for hotel rooms and increased other related travel expenses. As a result, we have instituted a regional surcharge to recover a portion of the increased costs. The regional surcharge is applied as follows:

- *Per Diem – An additional \$240 will be charged for each flagging day. In the event of a late notice cancellation (described in detail below) the additional Per Diem cost will also apply.*
- *Mobilization and Demobilization – An additional \$180 will be assessed for each mobilization or demobilization event in which there is a cessation of flagging services (non-continuous flagging days).*

UTILITY COMPANIES

CITY OF CHICKASHA
LINE MAINTENANCE DEPT
405-222-6082
117 N. 4TH STREET
CHICKASHA, OK 73018

CENTERPOINT ENERGY
405-224-2740
619 W. CHICKASHA AVE.
CHICKASHA, OK 73018

AT&T
811

AEP-PSO
405-222-7626
SUDDENLINK
877-612-5036
1108 S. 4TH STREET
CHICKASHA, OK 73018

SPRINT NEXTEL
1-800-521-0579
BRAD HOWE
405-274-0954

CHICKASHA MUNICIPAL AUTHORITY

PLAN OF PROPOSED WATER MAIN CONSTRUCTION ADA SIPUEL AVENUE AT UNION PACIFIC RAILROAD

RFP CMA-2401

KEITH JOHNSON
GENERAL MANAGER

JIM CROSBY
PUBLIC WORKS DIRECTOR

PRIOR TO PERFORMING ANY GRADING OR EXCAVATING WORK, THE CONTRACTOR SHALL CALL OKIE811, THE OKLAHOMA ONE-CALL SYSTEM NOT LESS THAN 48 HOURS IN ADVANCE AND SHALL VERIFY OR ESTABLISH THE EXACT LOCATION AND DEPTH OF ALL UNDERGROUND LINES.

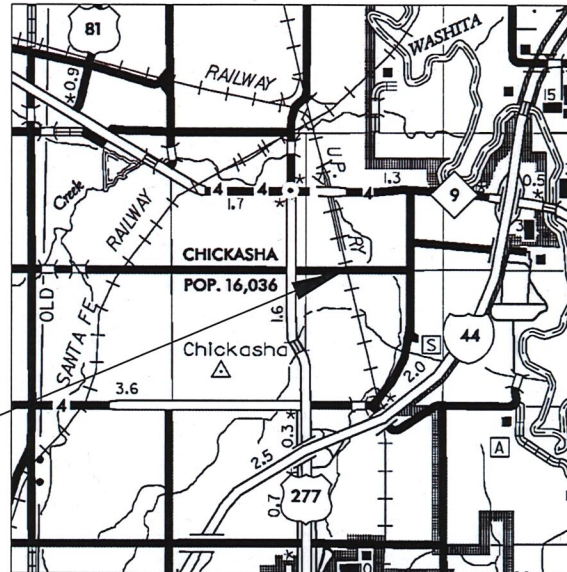


NOTE: BEFORE EXCAVATING ON THE EAST SIDE OF THE UNION PACIFIC RAILROAD TRACKS, CONTRACTOR SHALL CALL BRAD HOWE WITH SPRINT NEXTEL AT 405-274-0954 TO VERIFY LOCATION OF SPRINT NEXTEL FACILITIES.

PROJECT
LOCATION

THE PROJECT LIES ENTIRELY WITHIN THE CORPORATE LIMITS OF THE CITY OF CHICKASHA.

LOCATION MAP



INDEX OF SHEETS

SHEET NUMBER	SHEET TITLE
1	TITLE SHEET
2	PAY QUANTITIES AND NOTES
3	WATER MAIN PLAN AND PROFILE
3A	PROFILE ADA SIPUEL CROSSING
4	WATER MAIN LAYOUT DETAILS
R1.1	RIGHT OF ENTRY SITE PLAN 1
R1.2	RIGHT OF ENTRY SITE PLAN 2
WM-2	WATER MAIN DETAILS
WM-4	WATER MAIN DETAILS
WM-6	PRV VAULT DETAILS
WM-L1	LARGE WATER MAIN DETAILS
WM-L2	LARGE WATER MAIN DETAILS
WM-L3	LARGE WATER MAIN DETAILS
WM-L4	LARGE WATER MAIN DETAILS
N/A	SURVEY DRAWING

6/27/24 DATE APPROVED BY CHICKASHA MUNICIPAL AUTHORITY

6/26/2024

DATE RANDALL SCOTT VAUGHN, OKLA. REG. NO. 15194



PREPARED BY:



CHISHOLM TRAIL CONSULTING, LLC
OK CA 7771
2124 SCOTT LANE
DUNCAN, OK 73533
580-467-8130

CITY OF CHICKASHA/CHICKASHA MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS, OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY RULES AND REGULATIONS, UNION PACIFIC RAILROAD PERMIT REQUIREMENTS AND DETAILS PROVIDED HEREIN SHALL GOVERN THE WORK.

UTILITY COMPANIES

CITY OF CHICKASHA
LINE MAINTENANCE DEPT
405-222-6082
117 N. 4TH STREET
CHICKASHA, OK 73018

CENTERPOINT ENERGY
405-224-2740
619 W. CHICKASHA AVE.
CHICKASHA, OK 73018

AT&T
811

AEP-PSO
405-222-7626

SUDDENLINK
877-612-5036
1108 S. 4TH STREET
CHICKASHA, OK 73018

SPRINT NEXTEL
1-800-521-0579
BRAD HOWE
405-274-0954

CHICKASHA MUNICIPAL AUTHORITY

PLAN OF PROPOSED
WATER MAIN CONSTRUCTION
ADA SIPUEL AVENUE AT
UNION PACIFIC RAILROAD

RFP CMA-2401

KEITH JOHNSON
GENERAL MANAGER

JIM CROSBY
PUBLIC WORKS DIRECTOR

INDEX OF SHEETS

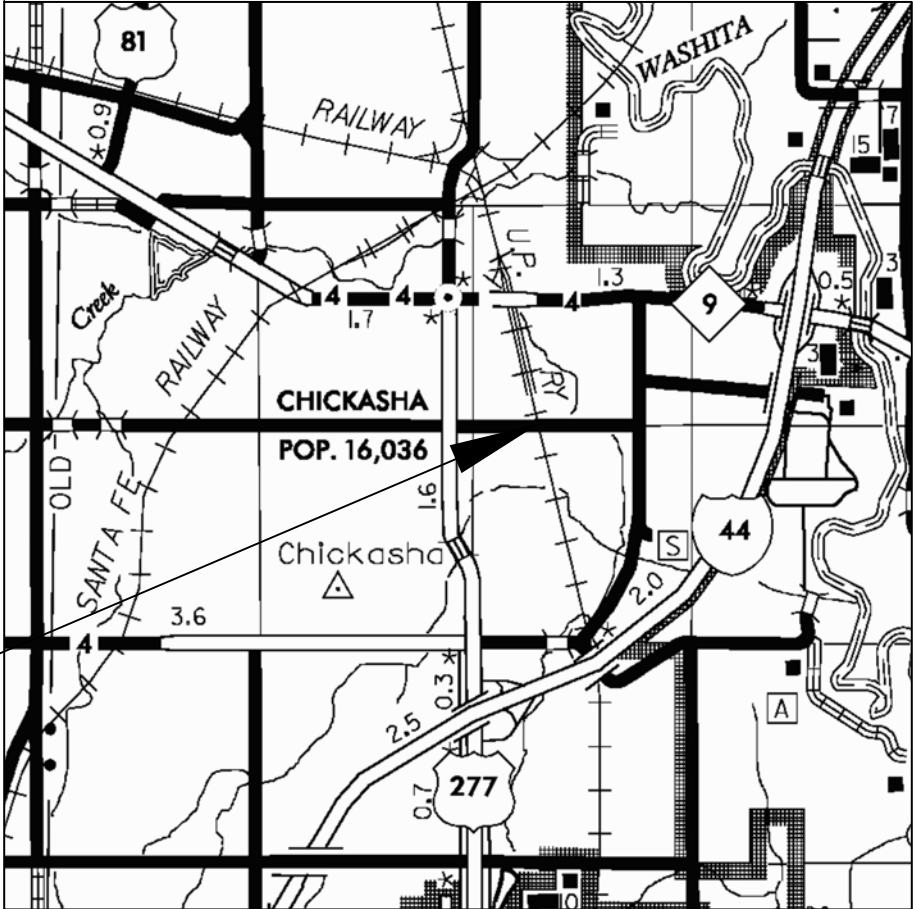
SHEET NUMBER	SHEET TITLE
1	TITLE SHEET
2	PAY QUANTITIES AND NOTES
3	WATER MAIN PLAN AND PROFILE
3A	PROFILE ADA SIPUEL CROSSING
4	WATER MAIN LAYOUT DETAILS
R1.1	RIGHT OF ENTRY SITE PLAN 1
R1.2	RIGHT OF ENTRY SITE PLAN 2
WM-2	WATER MAIN DETAILS
WM-4	WATER MAIN DETAILS
WM-6	PRV VAULT DETAILS
WM-L1	LARGE WATER MAIN DETAILS
WM-L2	LARGE WATER MAIN DETAILS
WM-L3	LARGE WATER MAIN DETAILS
WM-L4	LARGE WATER MAIN DETAILS
N/A	SURVEY DRAWING

PRIOR TO PERFORMING ANY GRADING OR EXCAVATING WORK, THE CONTRACTOR SHALL CALL OKIE811, THE OKLAHOMA ONE-CALL SYSTEM NOT LESS THAN 48 HOURS IN ADVANCE AND SHALL VERIFY OR ESTABLISH THE EXACT LOCATION AND DEPTH OF ALL UNDERGROUND LINES.



NOTE: BEFORE EXCAVATING ON THE EAST SIDE OF THE UNION PACIFIC RAILROAD TRACKS, CONTRACTOR SHALL CALL BRAD HOWE WITH SPRINT NEXTEL AT 405-274-0954 TO VERIFY LOCATION OF SPRINT NEXTEL FACILITIES.

PROJECT
LOCATION



LOCATION MAP

THE PROJECT LIES ENTIRELY WITHIN THE CORPORATE LIMITS OF THE CITY OF CHICKASHA.

CITY OF CHICKASHA/CHICKASHA MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS, OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY RULES AND REGULATIONS, UNION PACIFIC RAILROAD PERMIT REQUIREMENTS AND DETAILS PROVIDED HEREIN SHALL GOVERN THE WORK.

DATE

APPROVED BY CHICKASHA MUNICIPAL AUTHORITY

6/26/2024

DATE

RANDALL SCOTT VAUGHN, OKLA. REG. NO. 15194



PREPARED BY:



CHISHOLM TRAIL CONSULTING, LLC
OK CA 7771
2124 SCOTT LANE
DUNCAN, OK 73533
580-467-8130

GENERAL CONSTRUCTION NOTES

ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE ODEQ RULES AND REGULATIONS, AWWA STANDARDS, UNION PACIFIC RAILROAD PERMIT AND CITY OF CHICKASHA/CHICKASHA MUNICIPAL AUTHORITY STANDARD SPECIFICATIONS AND CONSTRUCTION DRAWINGS.

ALL COSTS OF MAINTENANCE DURING CONSTRUCTION AND BEFORE THE PROJECT IS ACCEPTED SHALL BE INCLUDED IN THE UNIT PRICES BID ON THE VARIOUS PAY ITEMS. THE CONTRACTOR SHALL MAINTAIN THE WORK DURING CONSTRUCTION AND UNTIL THE PROJECT IS ACCEPTED. THIS MAINTENANCE SHALL CONSTITUTE CONTINUOUS AND EFFECTIVE WORK PROSECUTED DAY BY DAY, WITH ADEQUATE EQUIPMENT AND FORCES TO THE END THAT THE DRAINAGE CHANNEL, PRIVATE PROPERTY AND STRUCTURES ARE KEPT IN A SATISFACTORY CONDITION AT ALL TIMES. IF THE CONTRACTOR, AT ANY TIME, FAILS TO COMPLY WITH THESE PROVISIONS, THE OWNER'S REPRESENTATIVE MAY IMMEDIATELY NOTIFY THE CONTRACTOR OF SUCH NON-COMPLIANCE. IF THE CONTRACTOR FAILS TO REMEDY UNSATISFACTORY MAINTENANCE WITHIN 24 HOURS AFTER RECEIPT OF SUCH NOTICE, THE OWNER MAY IMMEDIATELY PROCEED TO MAINTAIN THE PROJECT, AND THE ENTIRE COST OF THIS MAINTENANCE WILL BE DEDUCTED FROM MONIES DUES OR BECOME DUE TO THE CONTRACTOR ON THIS CONTRACT.

THE CONTRACTOR SHALL NOTIFY THE CHICKASHA MUNICIPAL AUTHORITY (CMA)IN WRITING A MINIMUM OF TWO WEEKS AND NO MORE THAN 30 DAYS PRIOR TO STARTING WORK.

THE CONTRACTOR SHALL NOTIFY THE CMA IN WRITING A MINIMUM OF FIVE (5)DAYS AND A MAXIMUM OF TEN (10)DAYS PRIOR TO THE CLOSING OF ANY PUBLIC ROAD, INCLUDING LANE CLOSURES.

CONTRACTOR SHALL GIVE WRITTEN NOTICE TO ALL RESIDENTS, OCCUPANTS OR BUSINESSES THAT MAY BE AFFECTED BY THE WORK. SAID WRITTEN NOTICE SHALL BE DELIVERED NO LESS THAN 48 HOURS, NOR MORE THAN 2 WEEKS PRIOR TO THE START TIME OF ANY DISRUPTION. THE WRITTEN FORM MAY BE "DOOR HANGERS", BUT IN ANY EVENT SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER PRIOR TO USE. AT A MINIMUM THE FORM SHALL CONTAIN: PROJECT IDENTIFICATION, CONTRACTOR NAME, CONTRACTOR ADDRESS, CONTRACTOR TELEPHONE NUMBER, TYPE OF CONSTRUCTION, REASON FOR AFFECTING OR DISRUPTING SERVICE AND DURATION OF SUCH.

REVISIONS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO BEGINNING ANY CONSTRUCTION SUBJECT TO THE REVISION.

GENEVIEVE STREET SHALL REMAIN OPEN TO ALL TRAFFIC AT ALL TIMES. ADA SIPUEL AVENUE SHALL REMAIN OPEN TO ALL TRAFFIC AT ALL TIMES, EXCEPT ADA SIPUEL AVENUE EAST OF GENEVIEVE STREET TO GRAND AVENUE MAY BE CLOSED TO THROUGH TRAFFIC FOR A MAXIMUM OF FIVE (5) DAYS TOTAL. THE CONTRACTOR SHALL NOT DETOUR TRAFFIC ONTO SIDE STREETS. SHEPHERD STREET NORTH OF ADA SIPUEL AVENUE MAY BE CLOSED TO THROUGH TRAFFIC A MAXIMUM OF TEN (10) DAYS TOTAL DURING CONSTRUCTION. THE PUBLIC WORKS DIRECTOR OF THE CITY OF CHICKASHA MAY AUTHORIZE CHANGES TO THESE CONDITIONS, IF NECESSARY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING, INSTALLING AND MAINTAINING ALL TRAFFIC CONTROL DEVICES. CONSTRUCTION TRAFFIC CONTROL SHALL BE DONE ACCORDING TO THE STANDARDS SET FORTH IN THE CURRENT EDITION OF THE "MUTCD", "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

GENERAL CONSTRUCTION NOTES (CONT.)

THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO ENSURE ADEQUATE DRAINAGE DURING CONSTRUCTION. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

ANY DAMAGE CAUSED BY THE CONTRACTOR TO ANY STRUCTURES, ROADWAY SURFACES, STRIPING, RAISED PAVEMENT MARKERS, SIGNS, GUARDRAIL, AND SLOPES SHALL BE REPAIRED AT CONTRACTORS EXPENSE TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.

BIDDERS SHALL FULLY INFORM THEMSELVES OF THE NATURE OF THE WORK AND CONDITIONS UNDER WHICH IT WILL BE PERFORMED. THE CONTRACTOR SHALL ADOPT METHODS CONSISTENT WITH GOOD CONSTRUCTION PRACTICE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT DAMAGE IN EXISTING RIGHT-OF-WAY. ANY DAMAGE DONE DUE TO CONTRACTOR'S NEGLIGENCE SHALL BE PREPARED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.

THE PRICE BID ON ALL ITEMS SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN ON THE PLANS.

EXISTING UTILITIES MAY OR MAY NOT BE SHOWN ON PLAN SHEETS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE INFLICTED TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF THEIR DIGGING, TRENCHING, BORING, ETC..... PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL THE "OKIE 811" NOTIFICATION CENTER FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION. THE "OKIE 811" NOTIFICATION CENTER MAY BE NOTIFIED ONLINE AT okie811.org, BY CALLING 811 OR 1-800-522-6543. DEPTH OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

CONCRETE MIXTURES CONTAINING SLAG OR SILICA FUME WILL NOT BE ACCEPTED.

THE CHICKASHA MUNICIPAL AUTHORITY WILL COORDINATE ANY NECESSARY UTILITY RELOCATIONS.

ALL WORK SHALL BE CONDUCTED WITHIN EASEMENTS AND RIGHTS-OF-WAY.

WATER MAIN MATERIALS AND INSTALLATION SHALL MEET REQUIREMENTS OF ODEQ 252:626 AND THE DETAILS PROVIDED.

THE PROJECT SHALL BE CONSTRUCTED SUCH THAT ACCESS TO ALL PROPERTIES IS MAINTAINED AT ALL TIMES.

SUMMARY OF QUANTITIES				
PAY ITEM	PAY ITEM DESCRIPTION	NOTES	UNITS	EST QTY
1	16" DIP WATER MAIN, TRENCHED UNCAS	1	LF	495
2	16" DIP WATER MAIN, INSTALLED IN CASING		LF	220
3	24" DIA. 7/16" WALL THICKNESS CASING INSTALLED	2	LF	220
4	16" X 16" MJ TEE, INSTALLED		EA	1
5	16" X 22.5° MJ BEND, INSTALLED		EA	1
6	16" X 11.25° MJ BEND, INSTALLED		EA	4
7	16" MJ GATE VALVE W/ BOX, INSTALLED		EA	4
8	16" X 6" MJ TEE, INSTALLED		EA	2
9	16" MJ PLUG, INSTALLED		EA	1
10	6" X 6" MJ TEE, INSTALLED		EA	1
11	6" DIP WATER MAIN, INSTALLED		LF	70
12	6" MJ GATE VALVE, INSTALLED		EA	3
13	FIRE HYDRANT ASSY (6'-0" BURY) INSTALLED		EA	1
14	6" PRESSURE REDUCING VALVE, INSTALLED		EA	1
15	6" MJ X FL GATE VALVE, INSTALLED		EA	2
16	6" FLANGED PIPE, 6" LONG, INSTALLED		EA	2
17	PRV VAULT, INSTALLED	3	EA	1
18	2-INCH BLOW-OFF, INSTALLED		EA	1
19	DISINFECTION		LSUM	1
20	HYDROSTATIC PRESSURE TESTING		LSUM	1
21	FENCE REMOVAL AND REPLACEMENT		LF	220
22	PAVEMENT REMOVAL AND REPLACEMENT		SY	28
23	CURB AND GUTTER REMOVAL AND REPLACEMENT		LF	20
24	CONSTRUCTION TRAFFIC CONTROL		LSUM	1
25	RAILROAD FLAGGING	4	LSUM	1
26	RAILROAD CONSTRUCTION OBSERVATION	4	LSUM	1
27	RAILROAD SAFETY	4	LSUM	1
28	INSURANCE	4	LSUM	1

PAY ITEM NOTES:

PAYMENT WILL BE MADE ACCORDING TO THE SUMMARY OF QUANTITIES.

(1) PRICE BID FOR THIS ITEM SHALL INCLUDE THE COST OF TRENCHING AND BACKFILL AND THE COST OF DEWATERING, IF NECESSARY.

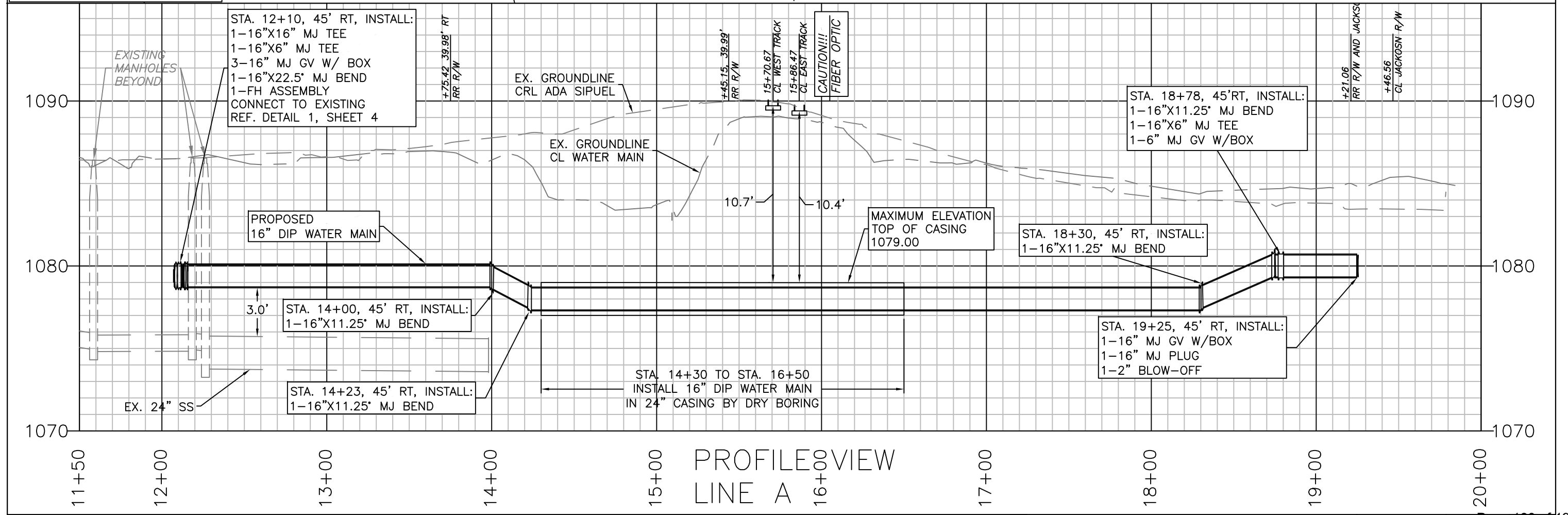
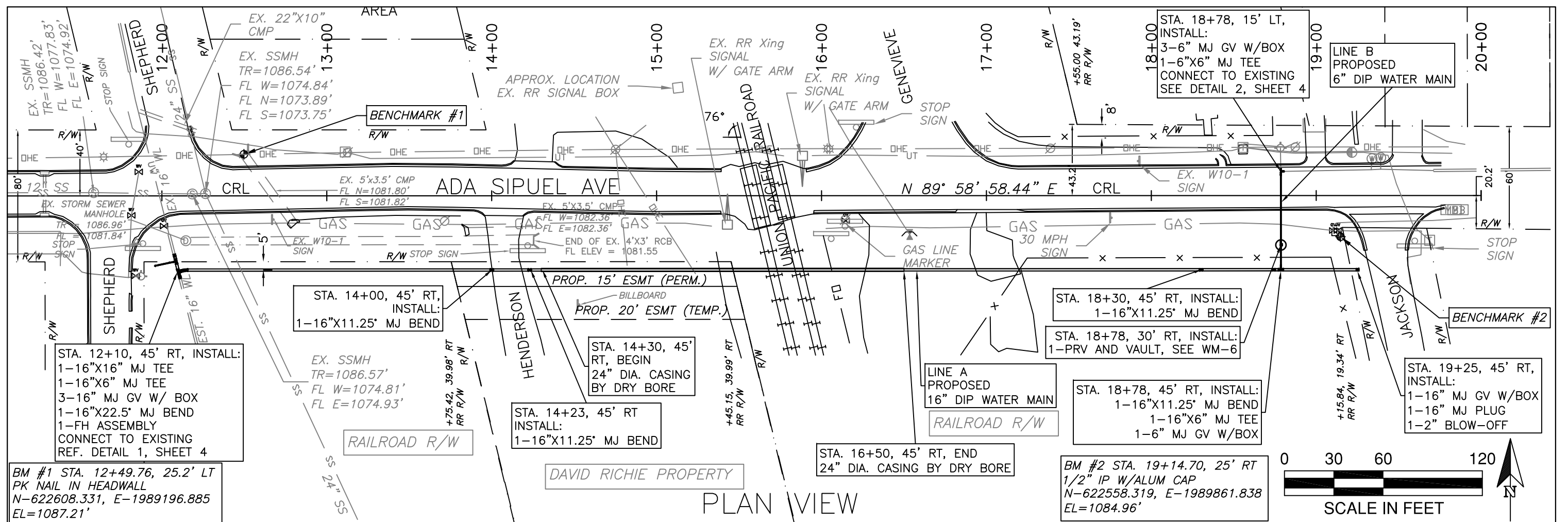
(2) PRICE BID FOR THIS ITEM SHALL INCLUDE THE COST OF EXCAVATION AND BACKFILL OF BORE PITS AND THE COST OF DEWATERING, IF NECESSARY.

(3) PRICE BID FOR THIS ITEM SHALL INCLUDE THE COST OF EXCAVATION, FOOTINGS, MANHOLE BASE, AGGREGATE, LID, BACKFILL AND ALL INCIDENTALS NOT OTHERWISE LISTED HERE.

(4) PRICE BID TO INCLUDE ALL COSTS ASSOCIATED WITH UNION PACIFIC RAILROAD PROJECT NO. 0795064 (PIPELINE CROSSING AGREEMENT).

SLEEVES WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE PAID AS COMPLETED WATER MAIN IN PLACE.

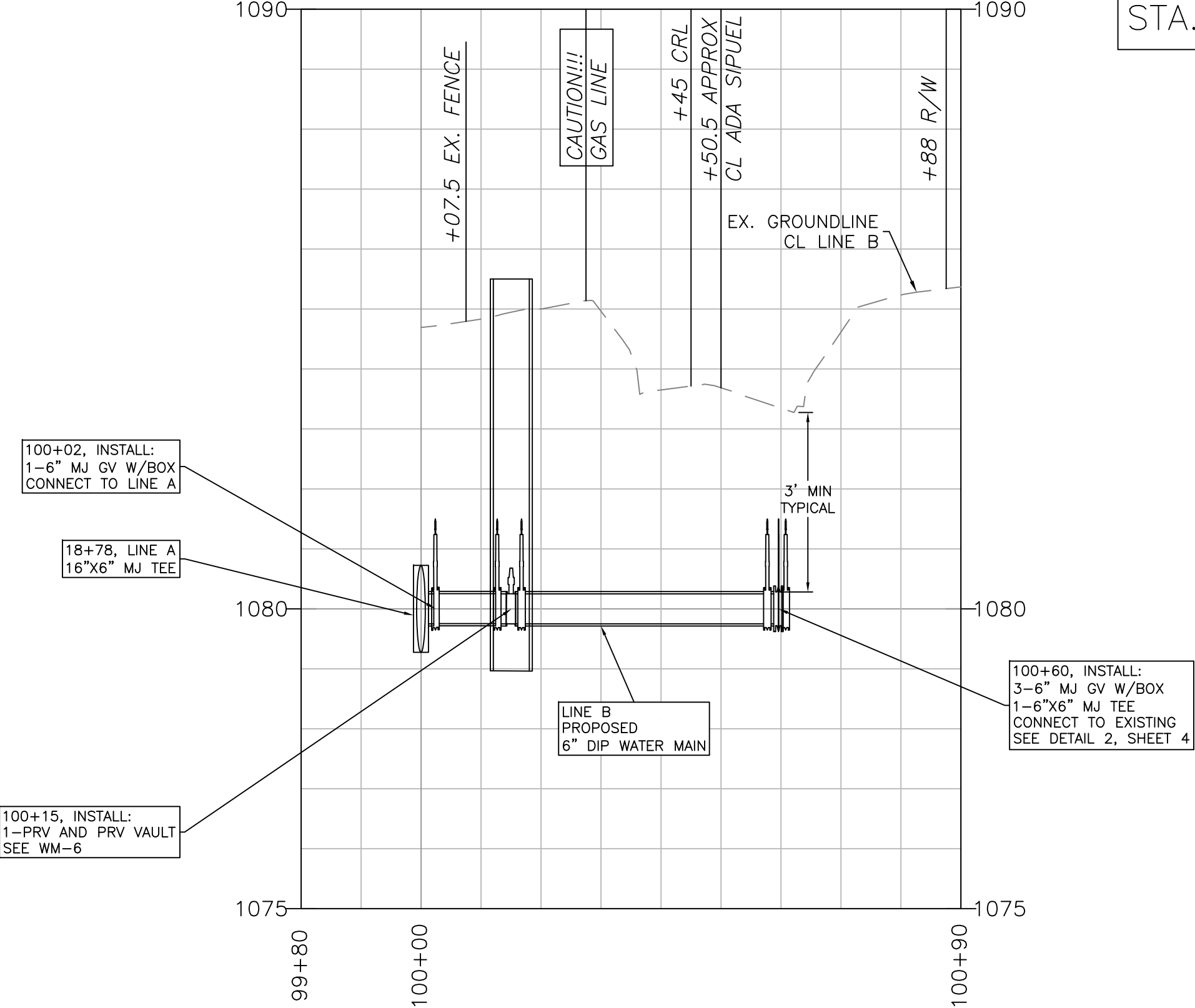
PRICE BID FOR FITTINGS SHALL INCLUDE THE COST OF ALL ACCESSORIES.

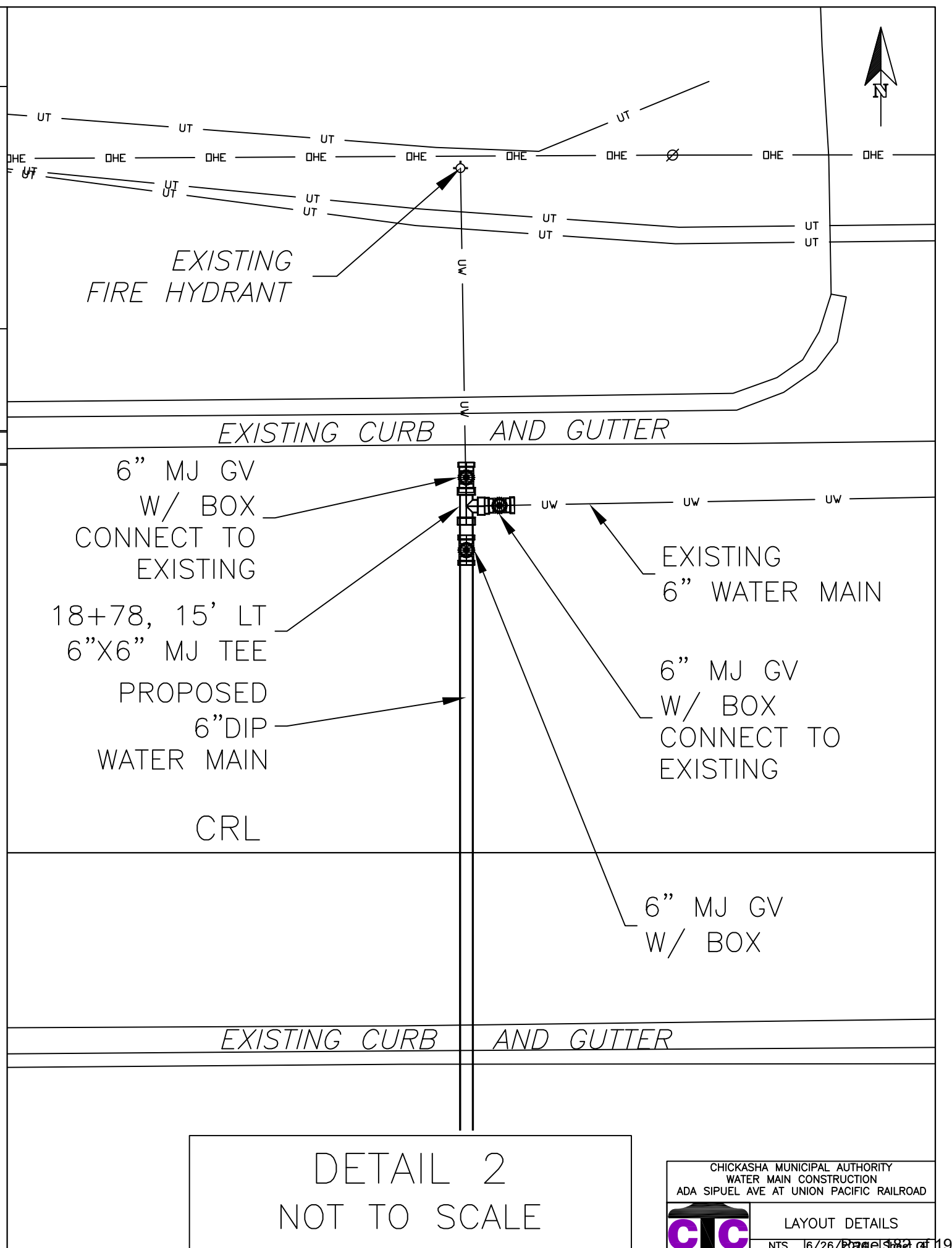
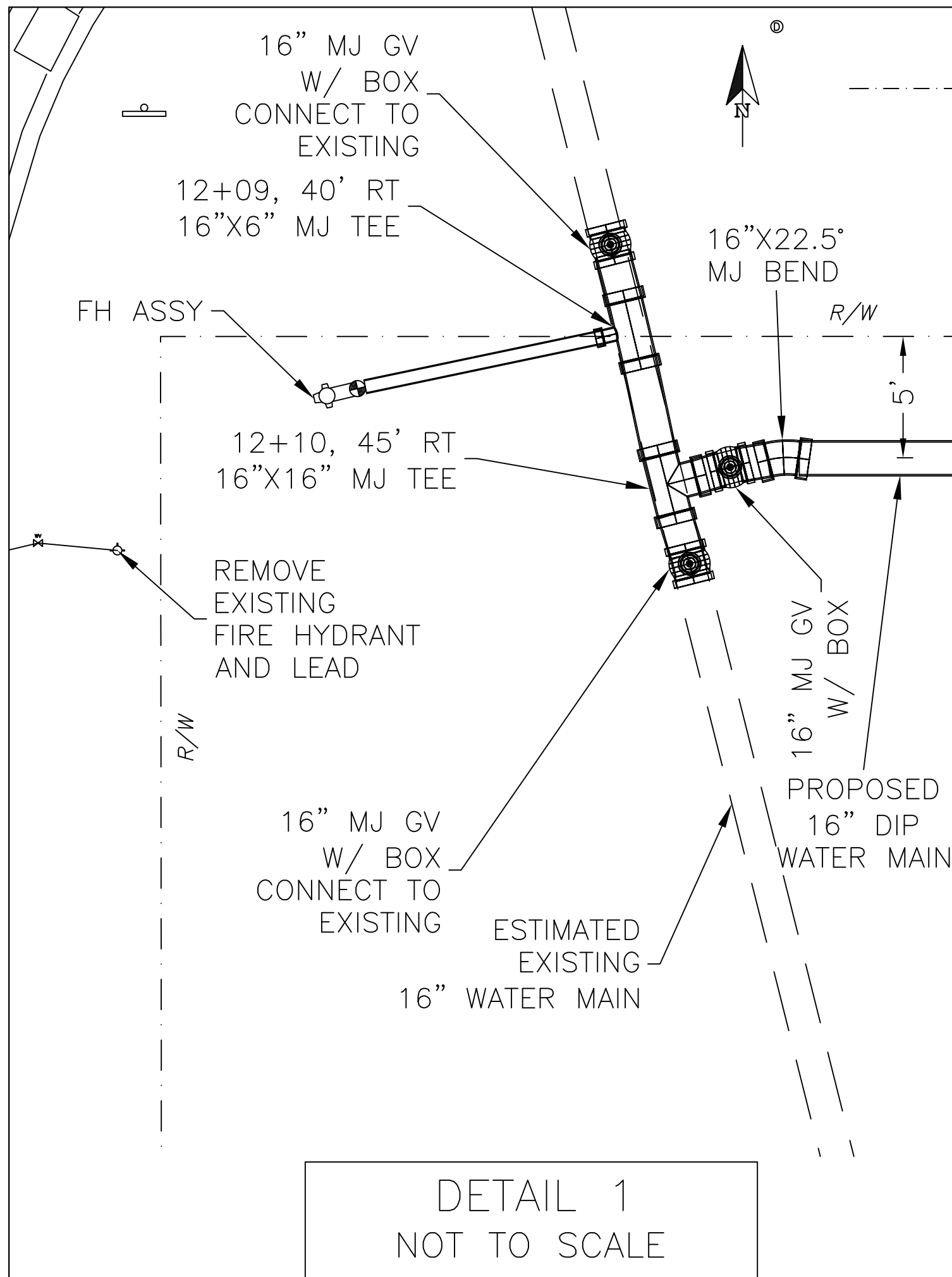


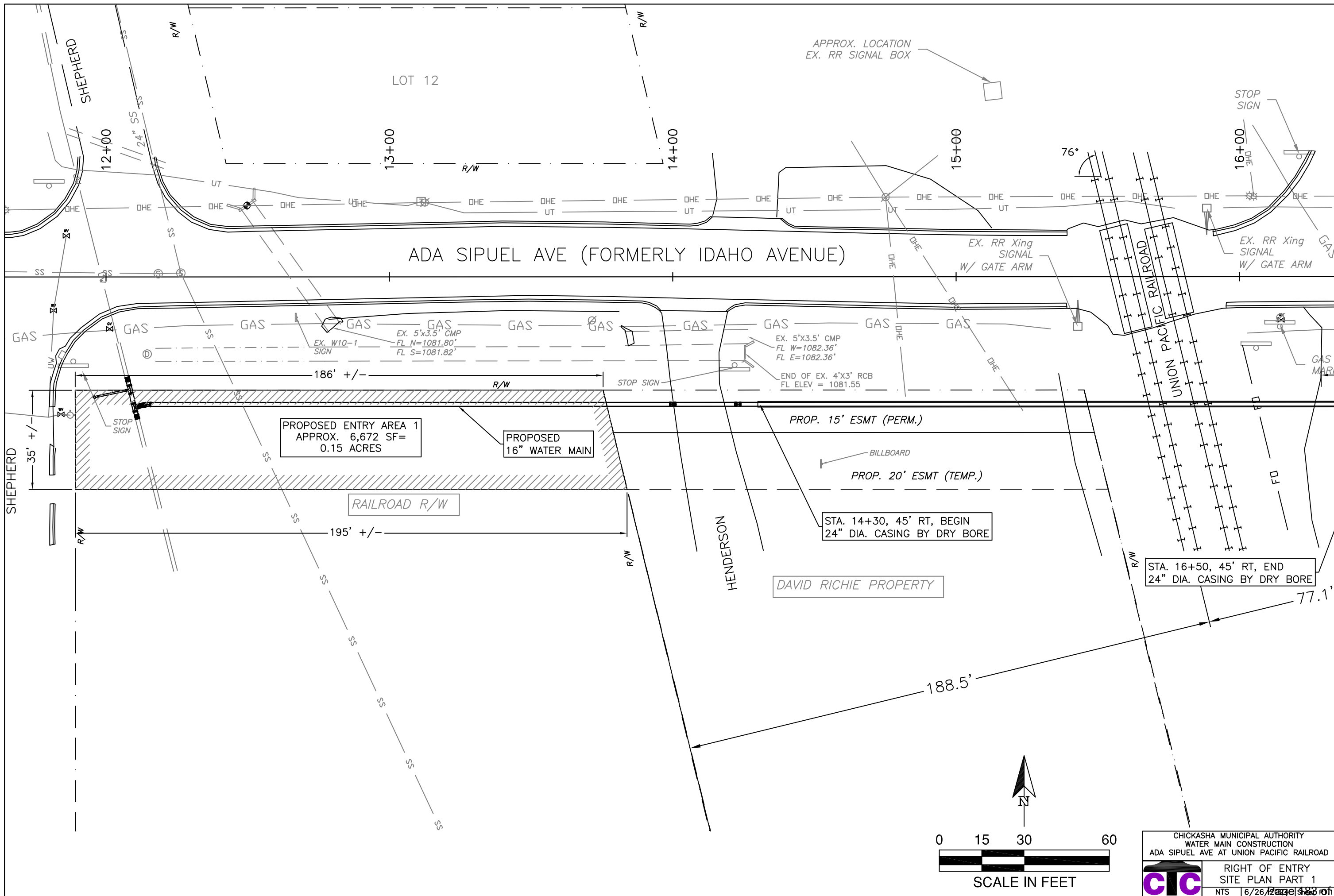
PROFILE SCALE:
HORIZONTAL 1" = 20'
VERTICAL 1" = 2'

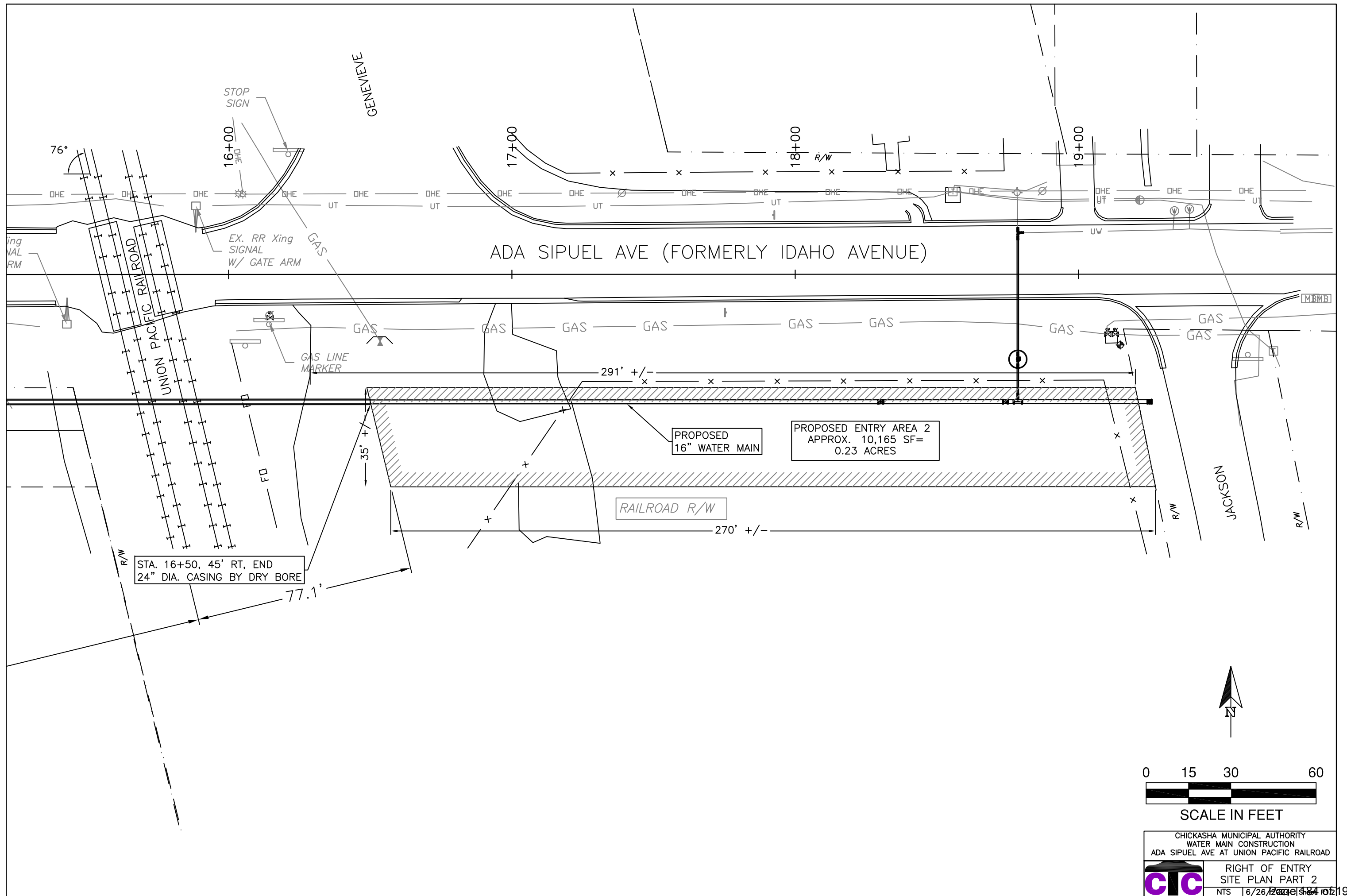


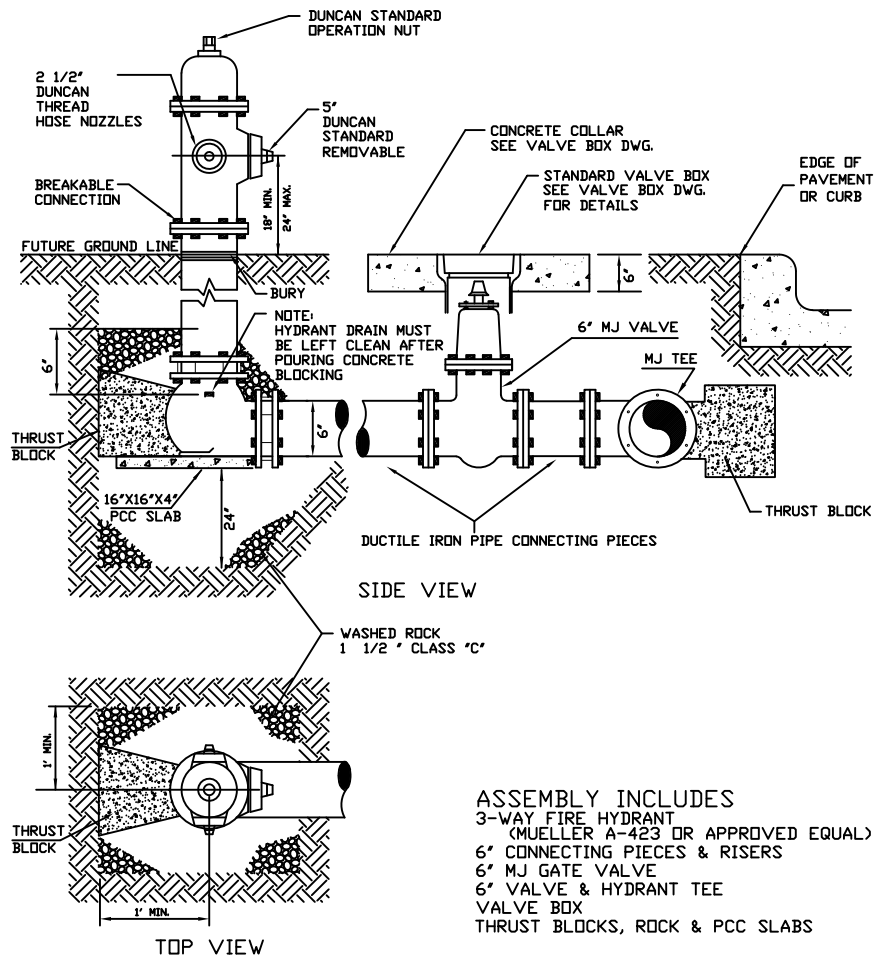
NOTE:
STA. 18+78.57 LINE A=
STA. 100+00 LINE B



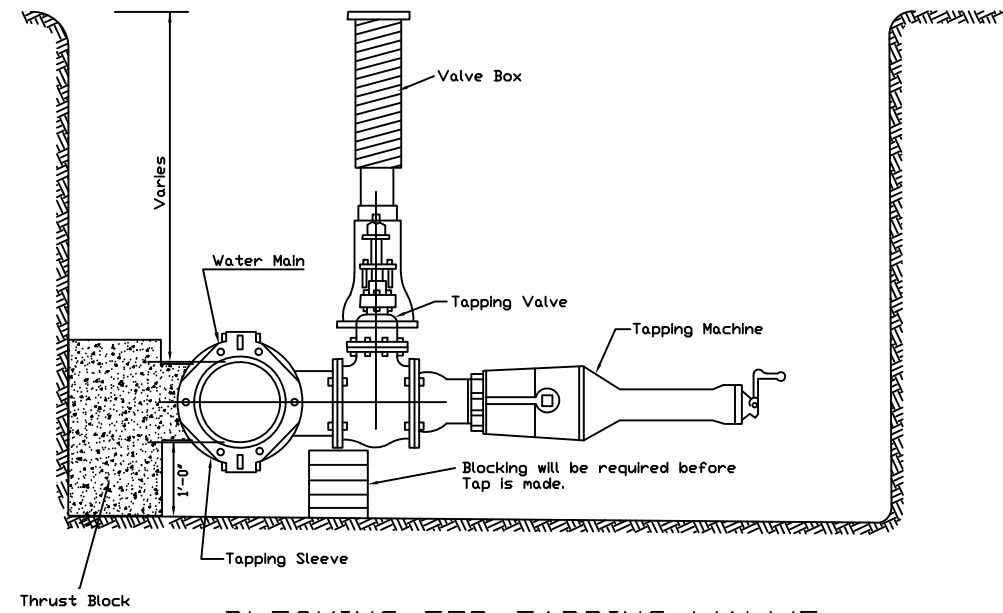






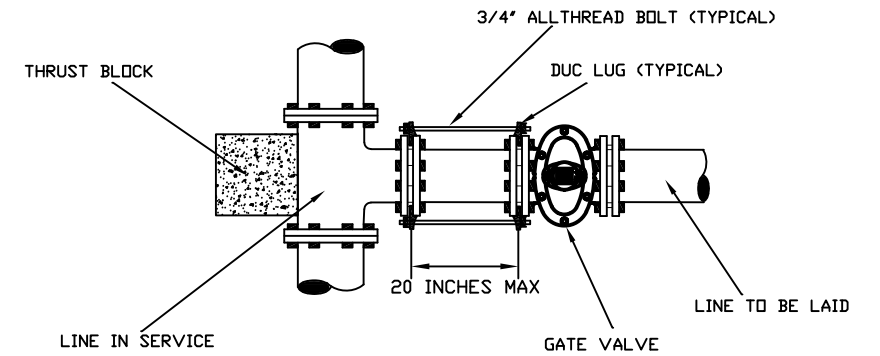
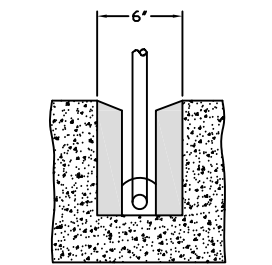
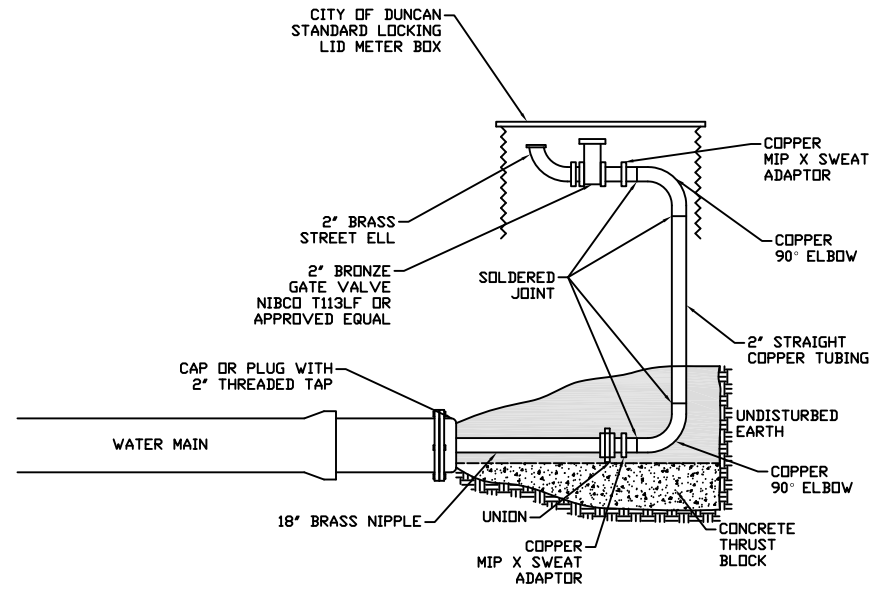
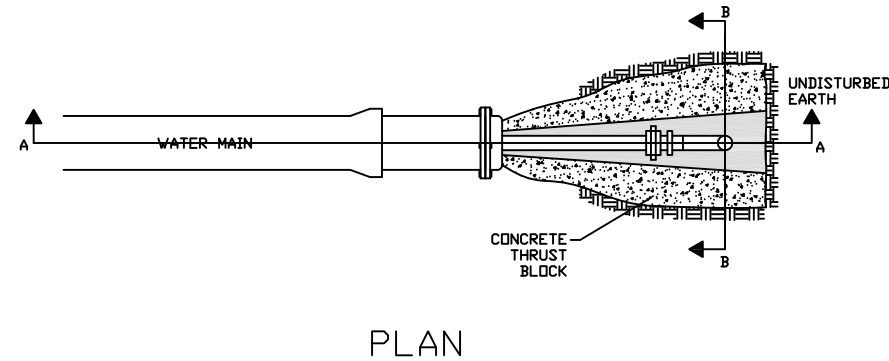


FIRE HYDRANT ASSEMBLY

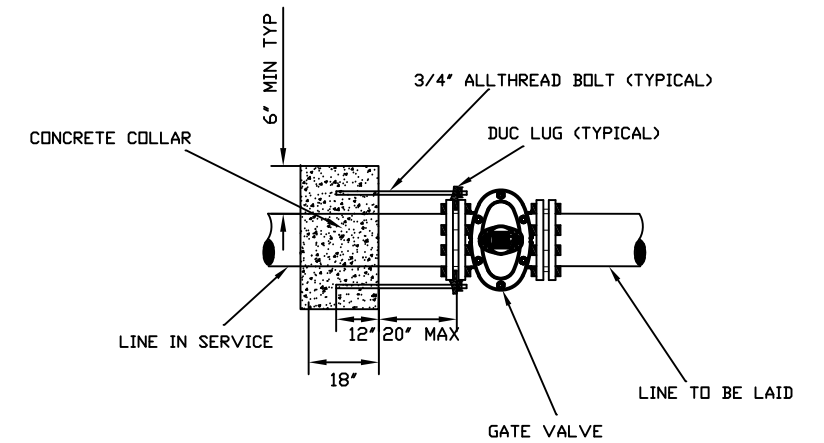


BLOCKING FOR TAPPING VALVE

2" BLOWOFF FOR DEAD END WATERLINE



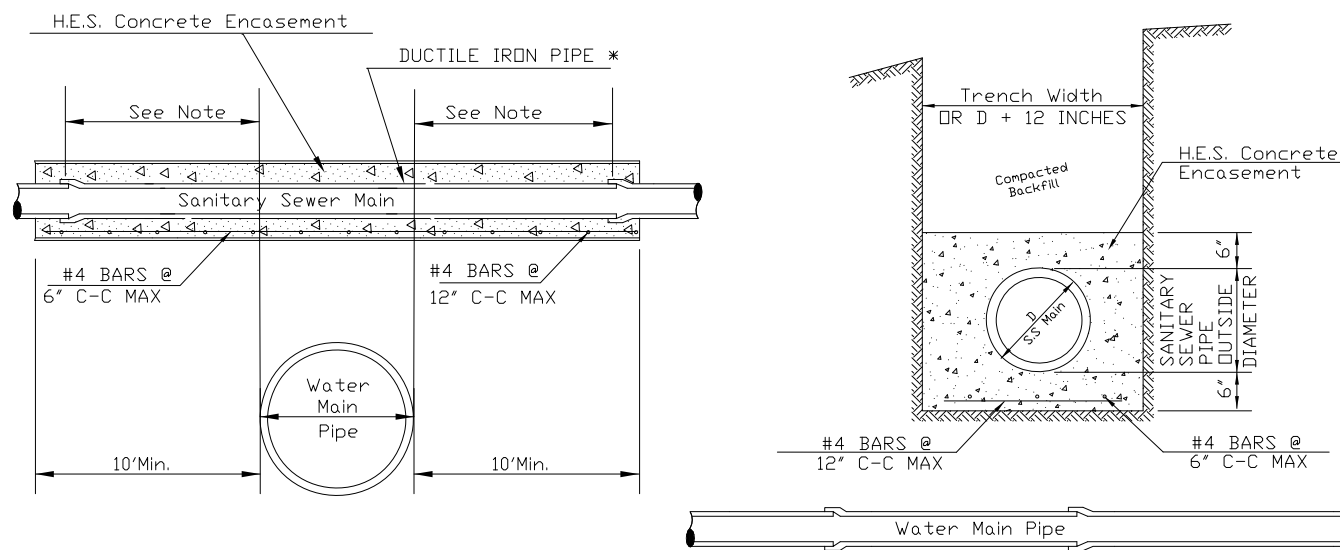
NOTE: USE NUMBER OF BOLTS W/ DUC LUGS ACCORDING TO THE SCHEDULE BELOW, EQUALLY SPACED.



NOTE: USE NUMBER OF BOLTS W/ DUC LUGS ACCORDING TO THE SCHEDULE BELOW, EQUALLY SPACED.

PIPE SIZE	MINIMUM NUMBER OF BOLTS
6"	2
8"	3
10"	4
12"	4

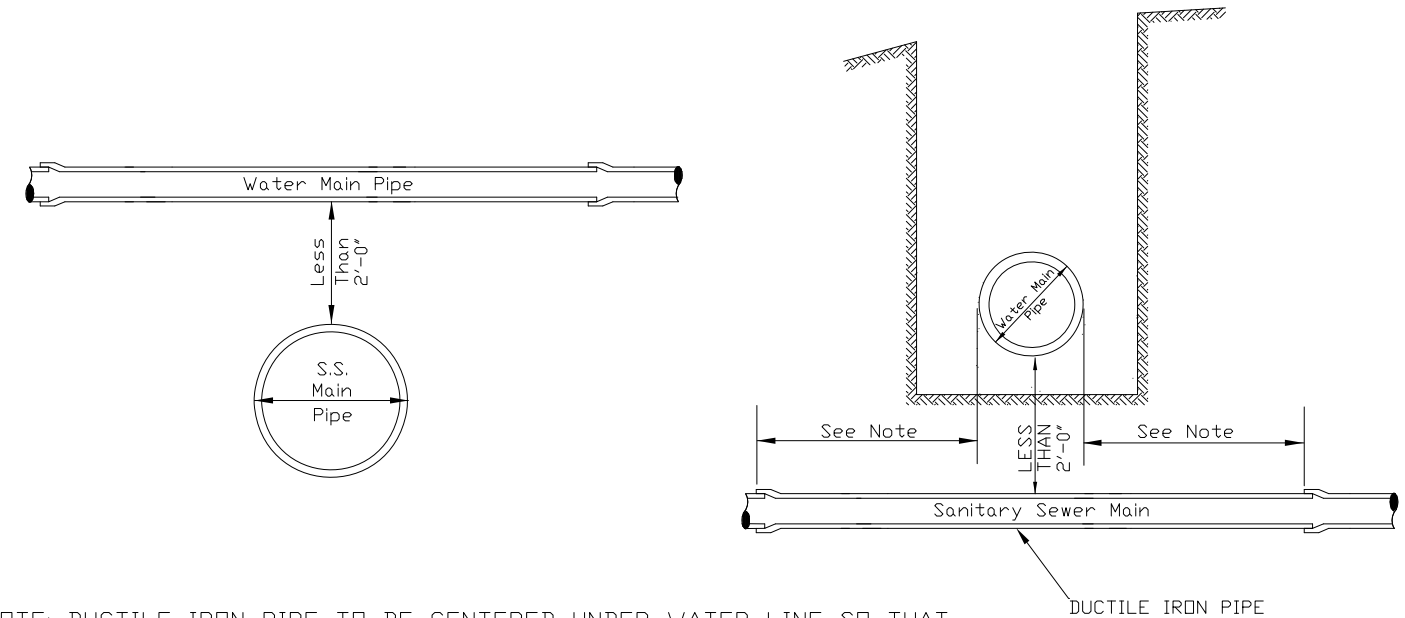
TYPICAL MECHANICAL JOINT RESTRAINTS
 USING 3/4-INCH ALL-THREAD BOLTS AND DUC LUGS



NOTE: CONCRETE ENCASEMENT IS TO EXTEND 4-INCHES PAST THE NEAREST JOINT AT OR BEYOND THE 10-FOOT MINIMUM SHOWN. REINFORCEMENT STEEL TO HAVE TWO INCHES OF CONCRETE COVER. THE ENGINEER MAY APPROVE OTHER MEANS OF STRUCTURAL SUPPORT OF THE SANITARY SEWER MAIN.

*NOTE: IF CLEARANCE BETWEEN WATER MAIN AND SS MAIN IS LESS THAN 2 FEET DUCTILE IRON PIPE TO BE CENTERED OVER WATER LINE SO THAT JOINTS ARE PLACED EQUAL DISTANCE FROM CROSSING AS SHOWN.

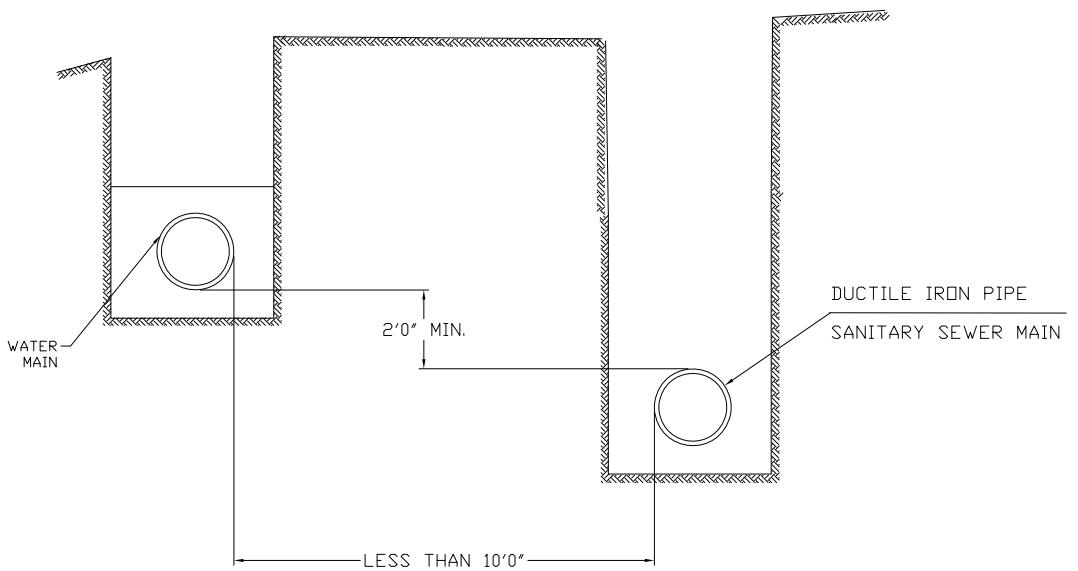
TYPICAL SECTIONS FOR WATER MAIN BELOW SEWER MAIN



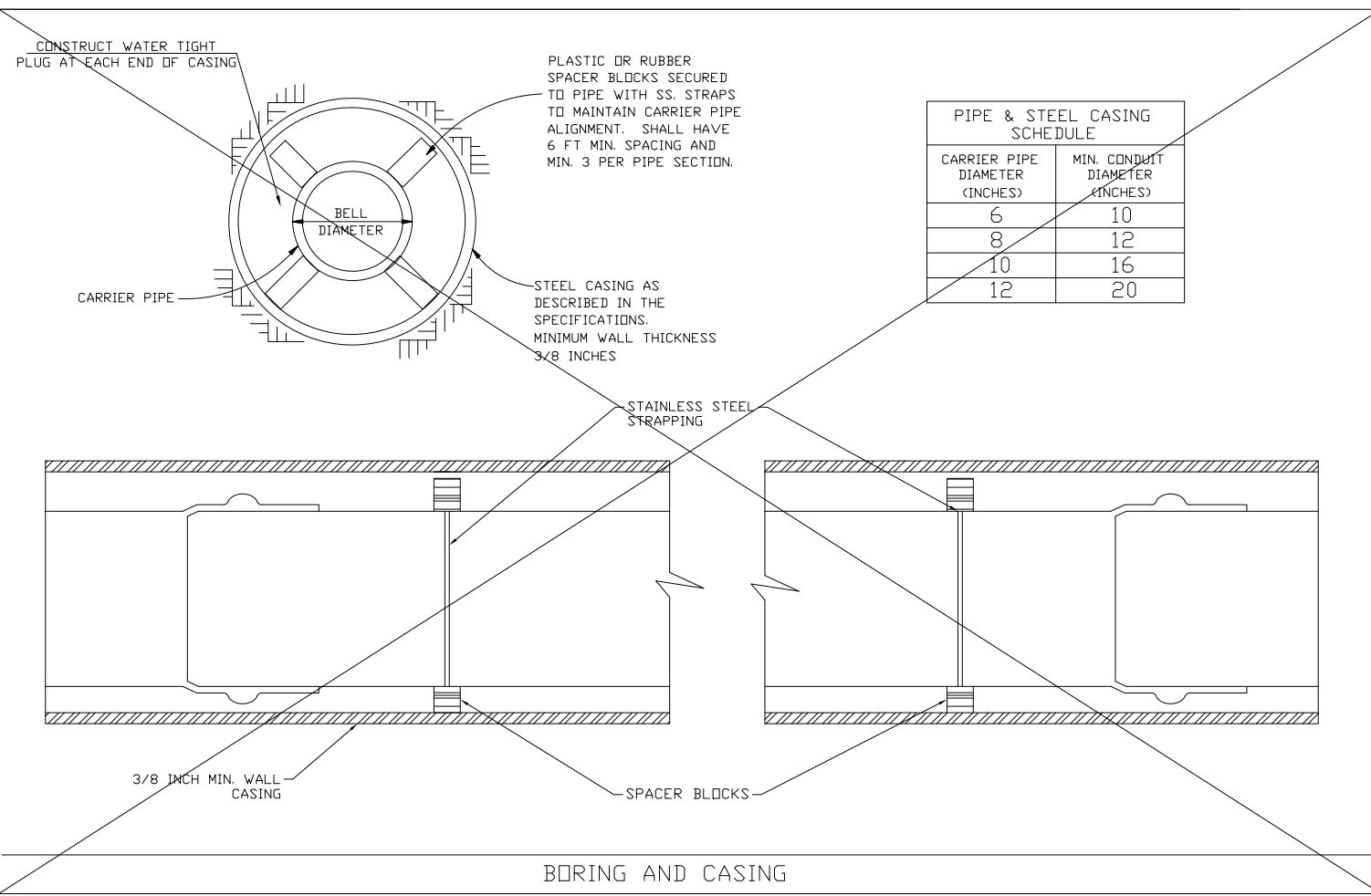
NOTE: DUCTILE IRON PIPE TO BE CENTERED UNDER WATER LINE SO THAT JOINTS ARE PLACED EQUAL DISTANCE FROM CROSSING AS SHOWN.

TYPICAL SECTIONS FOR WATER MAIN LESS THAN 2-FOOT ABOVE SEWER MAIN

WATER LINE AND SEWER CROSSINGS



WATER AND SEWER LINES WITH HORIZONTAL CLEARANCE OF LESS THAN TEN FEET



PIPE & STEEL CASING SCHEDULE	
CARRIER PIPE DIAMETER (INCHES)	MIN. CONDUIT DIAMETER (INCHES)
6	10
8	12
10	16
12	20



- 1 6" MJ X FL GATE VALVE
- 2 6" I.D. X 6" LONG FLANGED PIPE
- 3 SINGER 6" S106-PR-X107 PRESSURE REDUCING VALVE, OR APPROVED EQUAL
- 4 6" THICK CONCRETE BLOCKS, 3,500 psi 28-DAY STRENGTH, FULLY SUPPORTING EACH ELEMENT

ALL ALUM. COVER 1/4" THICK
W/ 1/2" x 2" ALUM.
STIFFENER BARS (3) EACH WAY

STIFFENER BARS

15 C/C" 15 C/C"

15 C/C" 15 C/C"

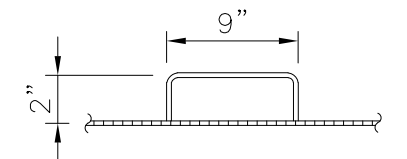
PLATE RING TO BE
5" X 1/4" THICK X
MANHOLE O.D.
FURNISHED +3/4 IN.

LIFTING HANDLE (2 PLACES)
1/2" ϕ ALUM. BAR BENT AS
SHOWN AND WELDED TO
COVER.

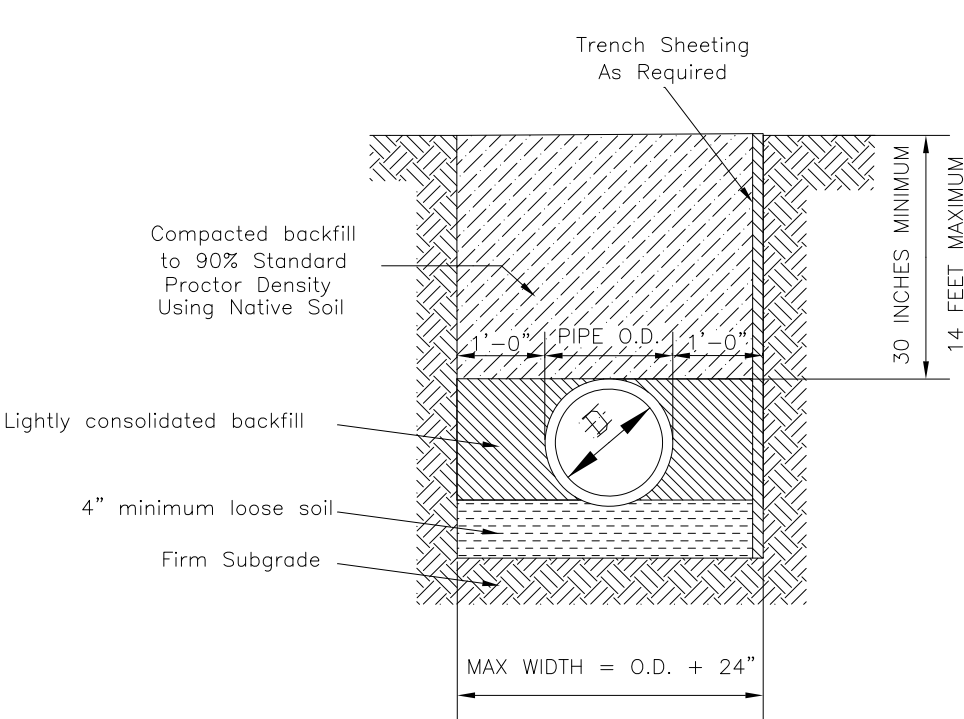
9"

ALUMINUM COVER

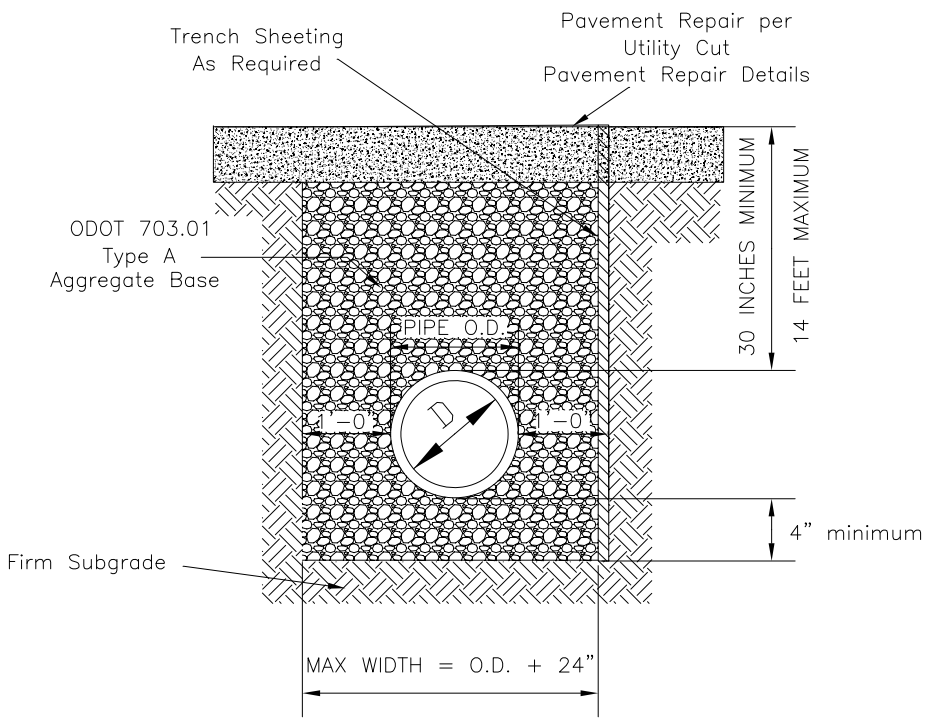
PLAN VIEW



TRENCH DETAILS



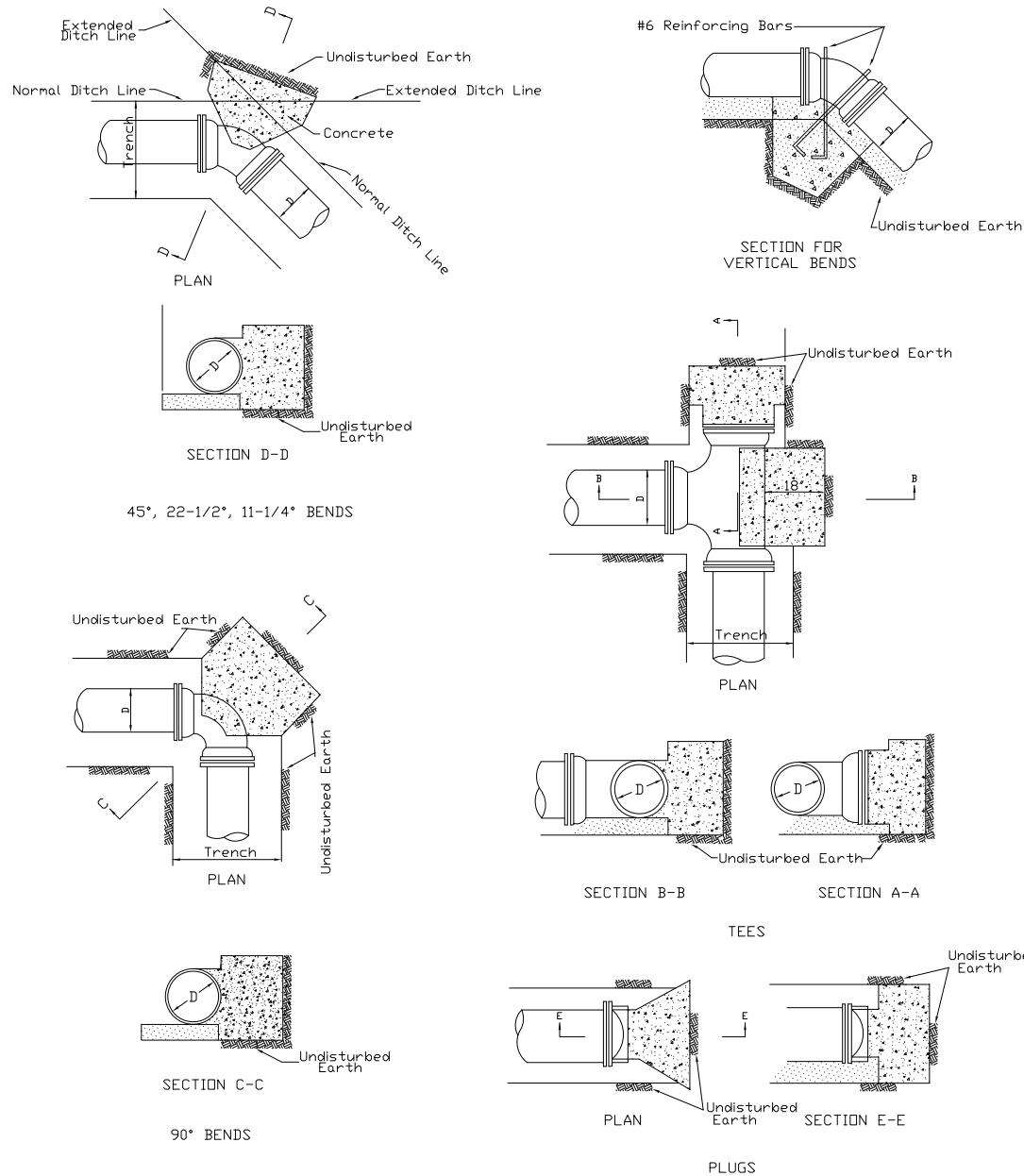
DUCTILE IRON PIPE TYPICAL



DUCTILE IRON PIPE UNDER
DRIVES, STREETS AND ALLEYS

TRENCH WIDTHS		
NOMINAL PIPE DIAMETER (INCHES)	MINIMUM TRENCH WIDTH (INCHES)	MAXIMUM TRENCH WIDTH (INCHES)
16	32	41
18	34	43
20	36	45

TYPE 3 LAYING CONDITIONS AS DEFINED IN AWWA C150 SHALL BE USED.
PIPE SHALL BE BEDDED IN MINIMUM FOUR INCHES OF LOOSE SOIL, WITH
BACKFILL LIGHTLY CONSOLIDATED TO TOP OF PIPE.



CONCRETE THRUST BLOCKS SHALL BE CAST IN PLACE CONCRETE WITH 3,500 PSI COMPRESSIVE STRENGTH AT 3 DAYS.

PLACE MINIMUM 8 MIL VISQUEEN BETWEEN THRUST BLOCK AND PIPE OR FITTING

ALL THRUST BLOCKS SHALL BE FORMED USING LUMBER OR SIMILAR SUITABLE MATERIAL

CONCRETE THRUST BLOCK DETAILS

I. HORIZONTAL AND DOWNWARD THRUST

Follow this procedure to arrive at the area of thrust block required for distributing horizontal and downward thrust to undisturbed soil.

A. Multiply anticipated working pressure (p_w) of the water main by 1.50. This represents application of a Safety Factor. If this calculation results in less than 150, use 150.

B. Multiply pressure obtained from step A by the value shown in Table 1 for the appropriate fitting and pipe size. This is the total thrust in pounds at the fitting (F).

C. Use Table 2 to determine the bearing strength (s_b) of the soil at the specific location.

D. Divide the thrust obtained from step B by the bearing strength of the soil obtained from step C in order to arrive at the area required for thrust block in square feet.

II. UPWARD THRUST

Follow this procedure to arrive at the quantity of concrete

A. Perform same calculations as in steps I.A and I.B.

B. Divide the thrust obtained from step I.B above by 150 pounds per cubic foot (concrete density) to arrive at the quantity of concrete required in cubic feet.

C. Reinforce the concrete per Standard Drawings.

Working pressure: Maximum internal pressure exerted under normal operating conditions.

Block Height shall be equal to or less than one-half the depth from top of ground to bottom of block, but not less than the pipe diameter.

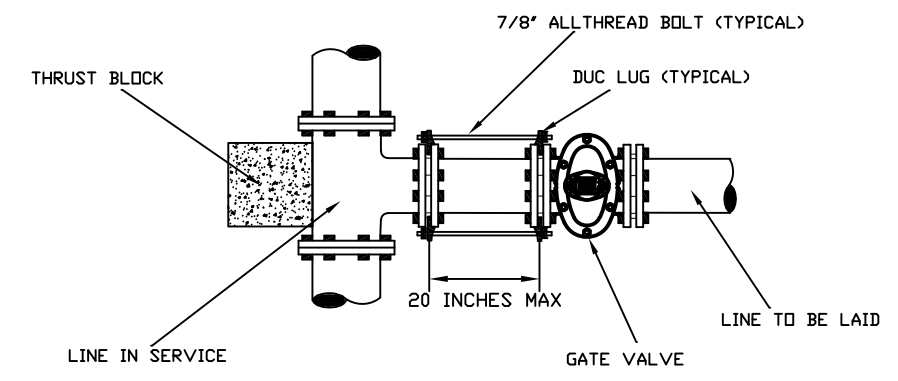
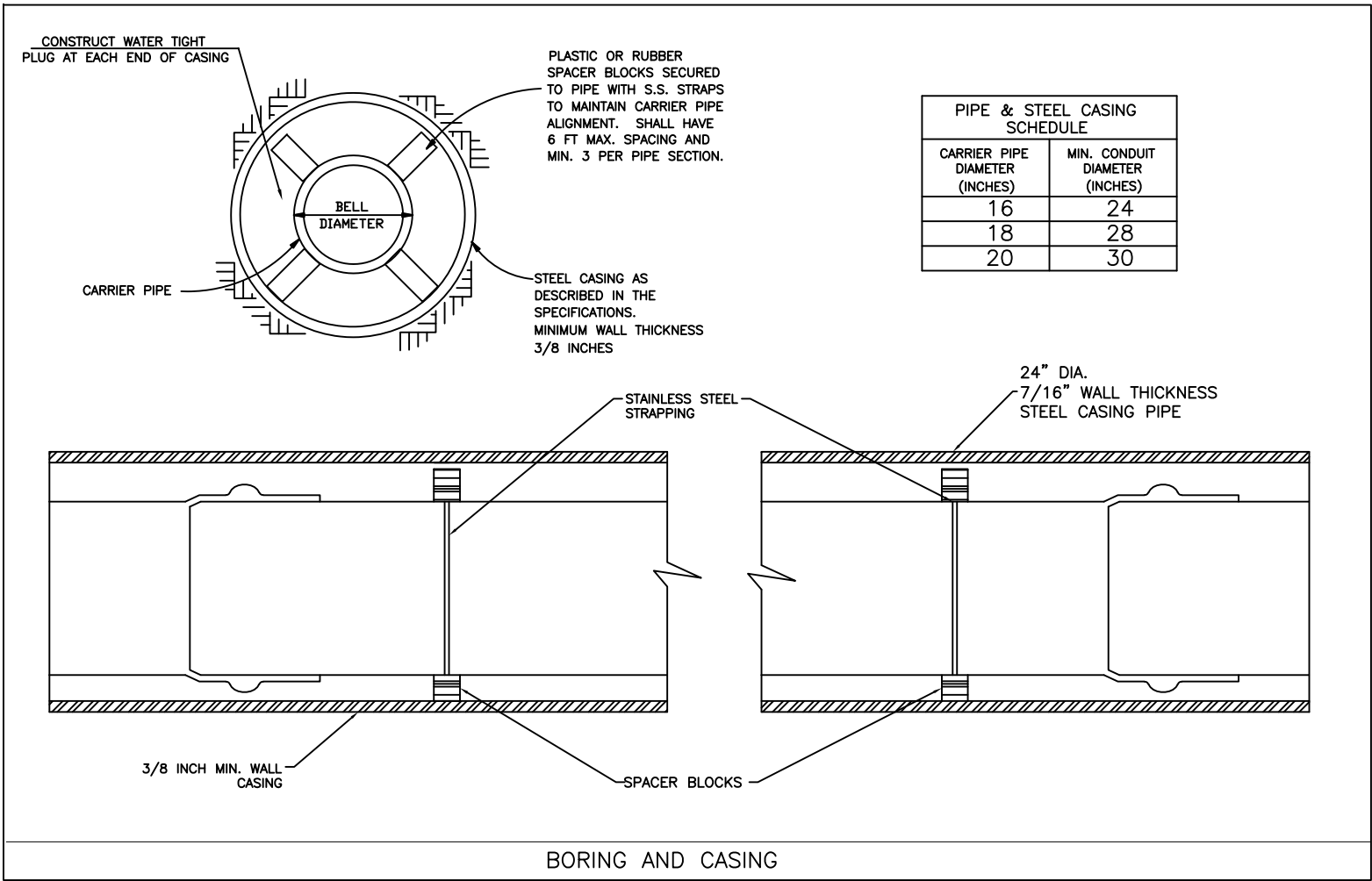
Block Width to Block Height ratio shall be between 1 and 2.

TABLE 1

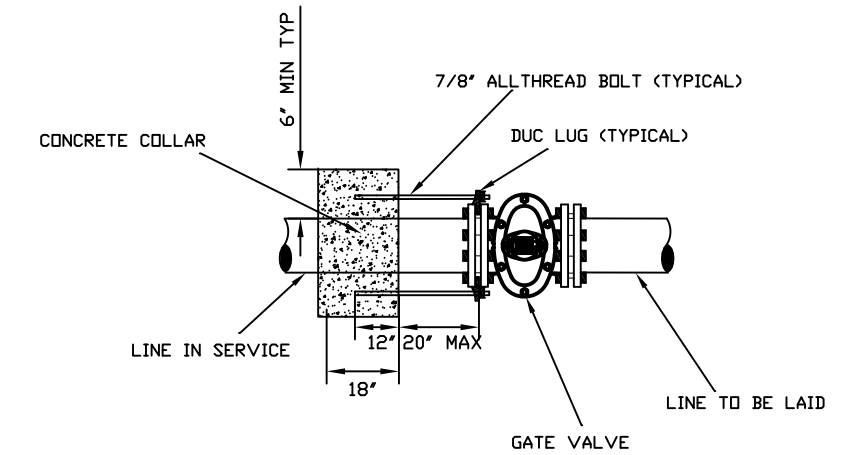
Pipe Nominal Size (inches)	Dead End, Tee or FH	90 Degree Bend	45 Degree Bend	22 1/2 Degree Bend	11 1/4 Degree Bend
16	238	336	182	93	47
18	299	422	229	117	59
20	366	518	280	143	72

TABLE 2

SOILS TYPE	BEARING STRENGTH (psi)
Sound shale or sandstone	10,000
Cemented Gravel and Sand (difficult to pick)	4,000
Coarse and fine compact Sand	3,000
Medium Clay (can be spaded)	2,000
Soft Clay	1,000
Muck	0



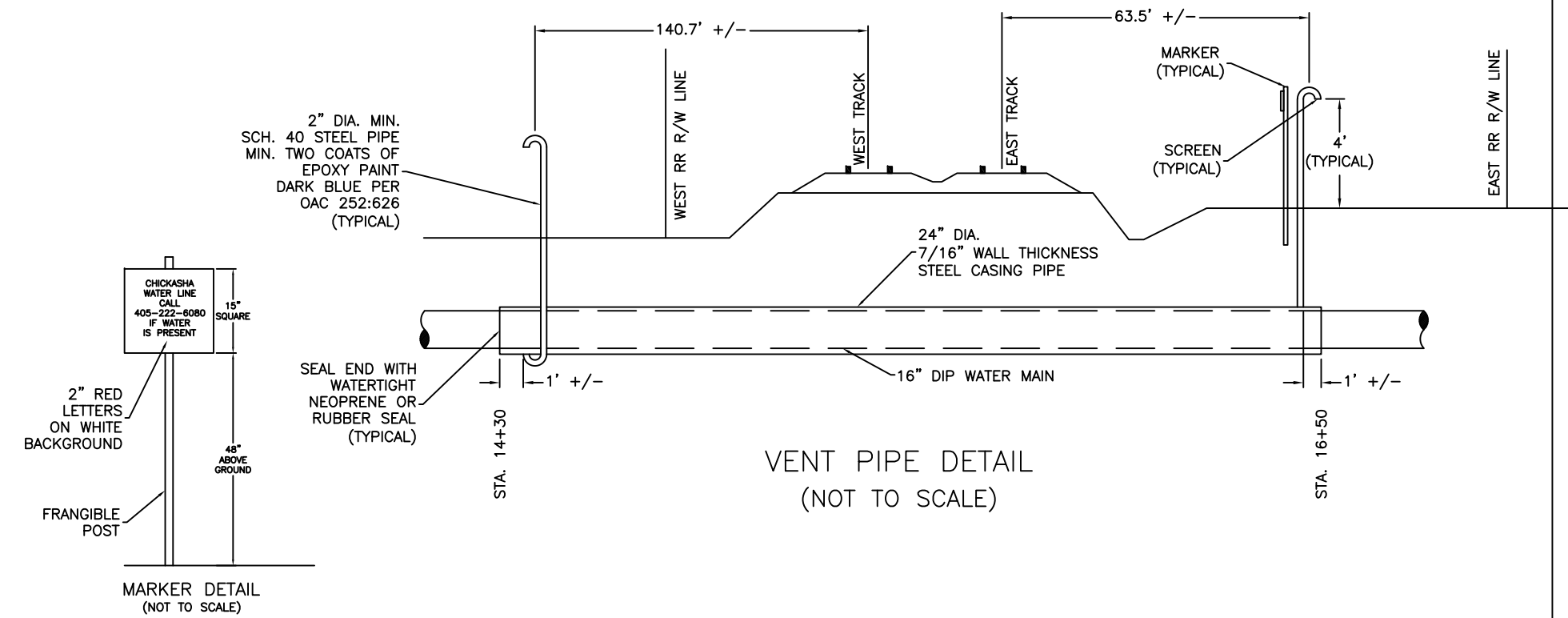
NOTE: USE NUMBER OF BOLTS W/ DUC LUGS ACCORDING TO THE SCHEDULE BELOW, EQUALLY SPACED.

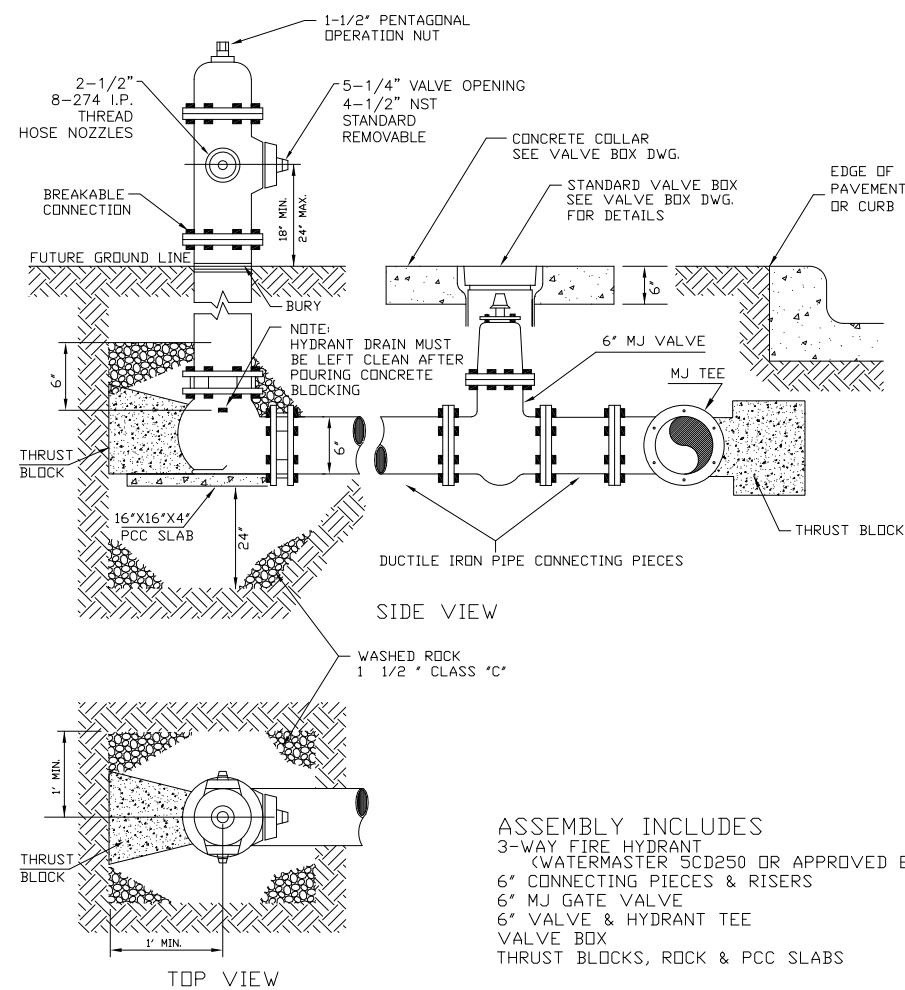


NOTE: USE NUMBER OF BOLTS W/ DUC LUGS ACCORDING TO THE SCHEDULE BELOW, EQUALLY SPACED.

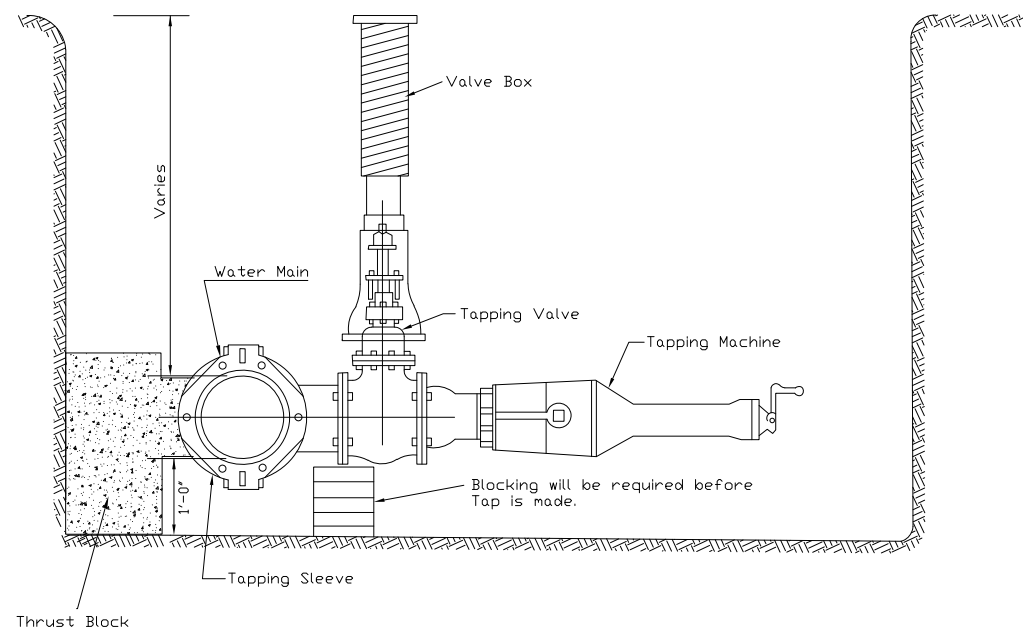
PIPE SIZE	MINIMUM NUMBER OF BOLTS
16"	8
18"	8
20"	10

TYPICAL MECHANICAL JOINT RESTRAINTS
USING 7/8-INCH ALL-THREAD BOLTS AND DUC LUGS

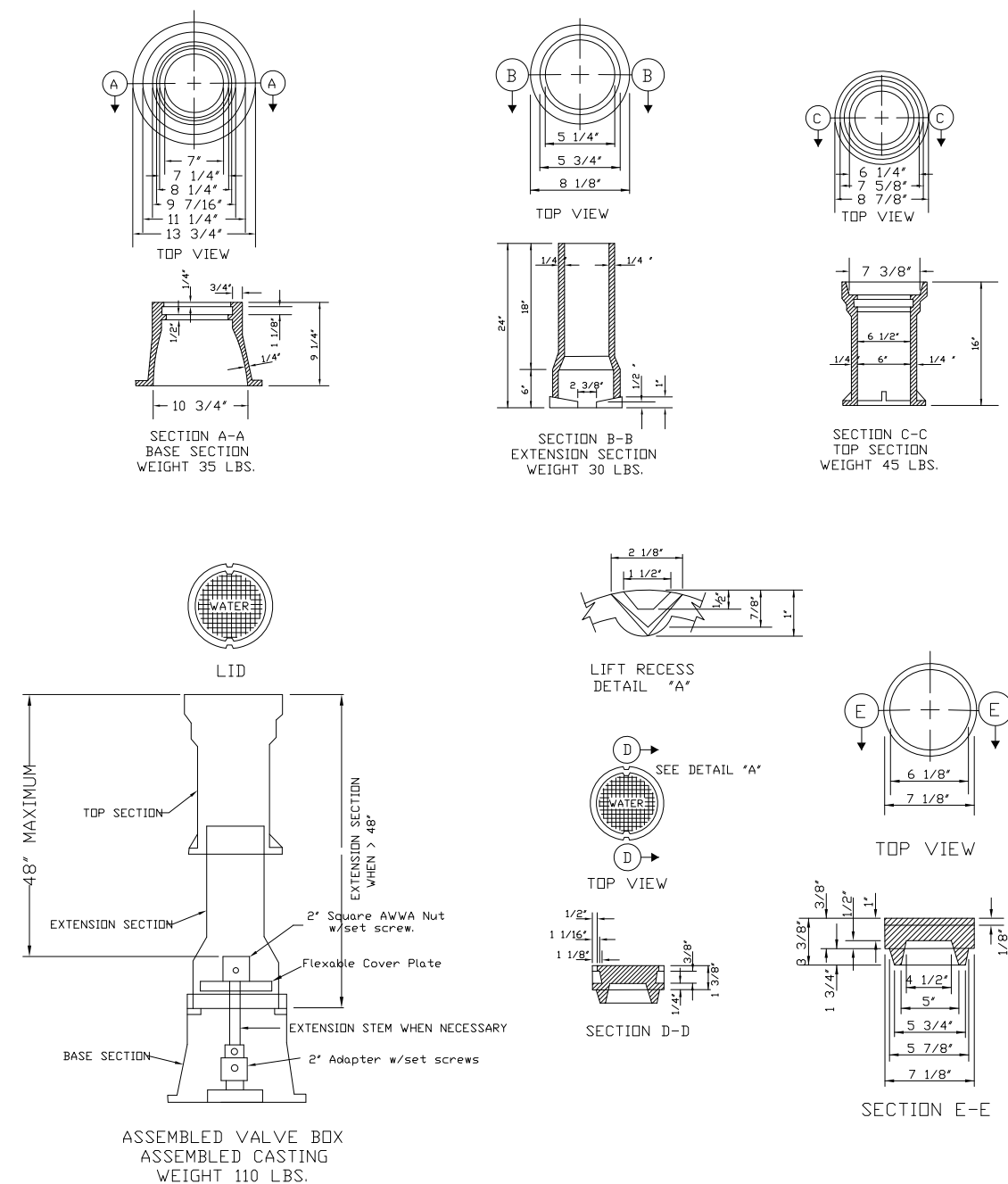




FIRE HYDRANT ASSEMBLY



BLOCKING FOR TAPPING VALVE



NOTES:

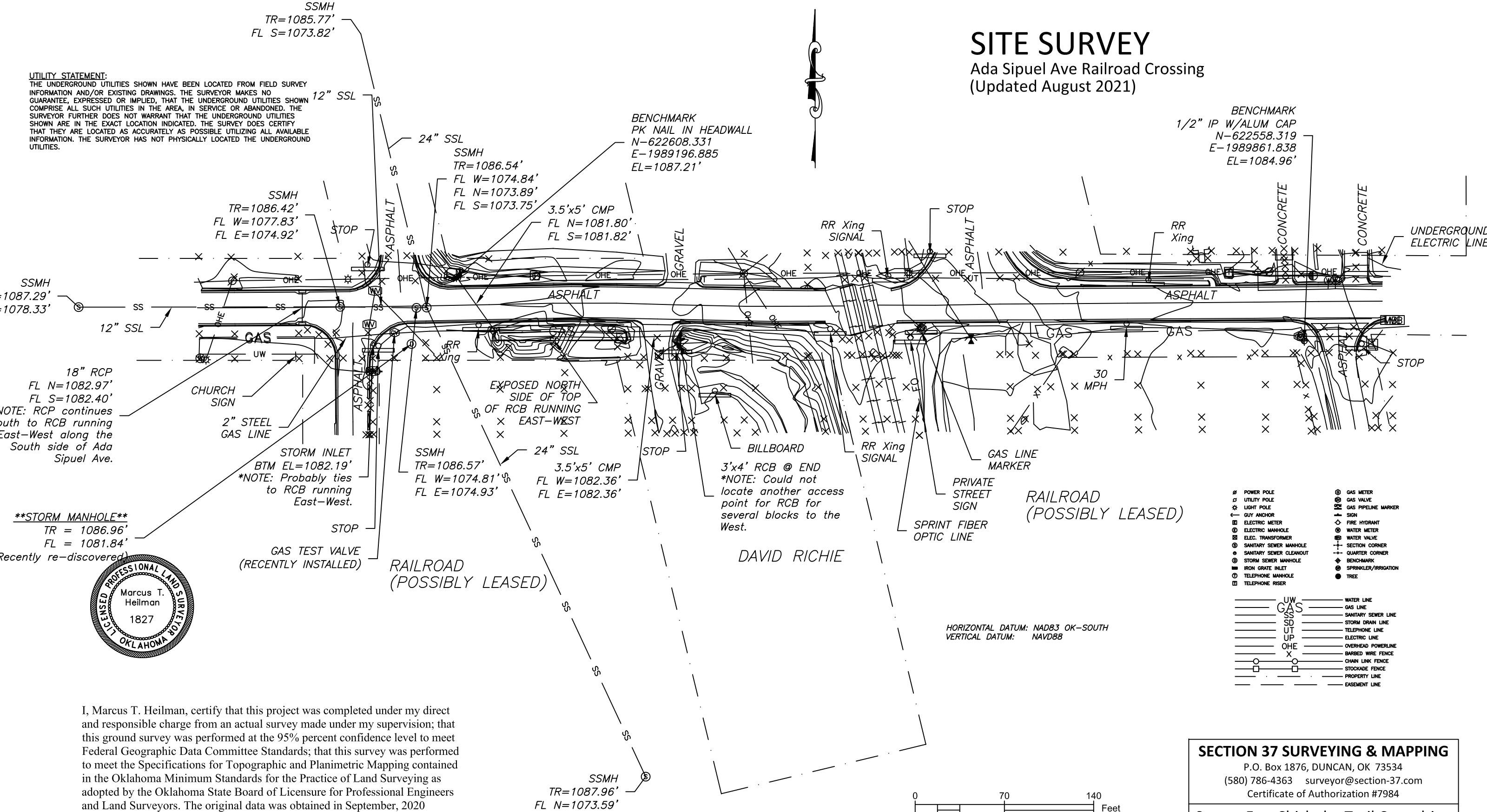
1. WATER LINE CONTRACTOR SHALL PLACE TWO FOOT (2') SQUARE CONCRETE COLLAR SIX INCHES (6") THICK AROUND EACH WATER VALVE BOX TOP AFTER FINAL GRADING HAS BEEN COMPLETED AND TRENCHES HAVE SETTLED. ALL COST OF COLLAR TO BE INCLUDED IN THE COST OF THE VALVE BOX.
2. VALVE BOXES REQUIRING OVER TWO ADDITIONAL BOTTOM SECTIONS SHALL BE EXTENDED USING CAST OR DUCTILE IRON PIPE WITH A BOTTOM AND TOP SECTION PLACED ON TOP OF THE CAST OR DUCTILE IRON PIPE.

CAST IRON VALVE BOX AND LID

SITE SURVEY

Ada Sipuel Ave Railroad Crossing
(Updated August 2021)

UTILITY STATEMENT:
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE, EXPRESSED OR IMPLIED, THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE SURVEY DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE UTILIZING ALL AVAILABLE INFORMATION. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.



I, Marcus T. Heilman, certify that this project was completed under my direct and responsible charge from an actual survey made under my supervision; that this ground survey was performed at the 95% percent confidence level to meet Federal Geographic Data Committee Standards; that this survey was performed to meet the Specifications for Topographic and Planimetric Mapping contained in the Oklahoma Minimum Standards for the Practice of Land Surveying as adopted by the Oklahoma State Board of Licensure for Professional Engineers and Land Surveyors. The original data was obtained in September, 2020 (additional data obtained in August 2021); that the survey was completed on August 23, 2021; and all coordinates are based on NAD83-OK South (US Survey Feet) and all elevations are based on NAVD88.

SECTION 37 SURVEYING & MAPPING

P.O. Box 1876, DUNCAN, OK 73534
(580) 786-4363 surveyor@section-37.com
Certificate of Authorization #7984

Survey For: Chisholm Trail Consulting

Field Survey Conducted: 9/20 & 8/21